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# *Colorado medicine*

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# COLORADO MEDICINE

A Medical Journal

CONTAINING

The Proceedings of the Colorado State Medical Society and of Its Constituent Societies, with Papers Read Before Them, Abstracts of the More Important Current Articles and Other Related Matter.

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HENRY S. DENNISON, M. D.  
AND  
LEONARD W. ELY, M. D.  
EDITORS

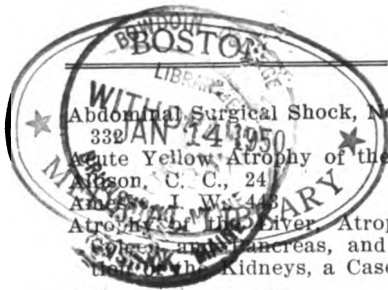
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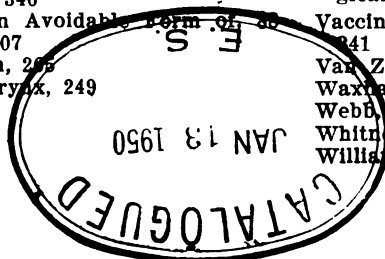
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# COLORADO MEDICINE

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Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions.

Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession will be gratefully acknowledged. The name of the sender should be given.

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## Notice

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VOL. VII.

DENVER, JANUARY, 1910

No. 1

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

### OUR PRESIDENT.

At the recent meeting of The Colorado State Medical Society, Dr. Leonard Freeman, whose ability and success in the practice of surgery, and sterling qualities of character have made him a conspicuous and popular figure in the profession of this state during the past fifteen years, was elected president of the Society for the ensuing year, and now needs no introduction to our readers at our hands. The honor thus conferred is recognized by all who know him as a well-deserved tribute to the indefatigable industry, the unselfish devotion to his profession, and the unswerving honesty which have characterized his career. These traits which

have contributed so largely to win for him the position he occupies in this community are doubtless a legacy from a father who practiced successfully as a physician and surgeon for half a century in Cincinnati, where Dr. Freeman was born on the 16th day of December, 1860. Passing his early life in that city, Dr. Freeman was educated in its schools and received the degree of B. S. from the University of Cincinnati in 1882, the degree of M. D. from the Medical College of Ohio in 1886, and served as interne in the Cincinnati Hospital, after which he spent two years in post-graduate work in the universities of Germany. Returning to Cincinnati he devoted his attention to surgery and was appointed Surgeon to Christ's Hospital, Professor of Surgery in the Woman's Medical College and pathologist to the Cincinnati Hospital. In 1894 Dr. Freeman was married and moved to Denver,



and shortly thereafter was appointed Professor of Surgery in the Gross Medical College. This chair he continued to hold until the two medical schools of Denver were merged into one, when he was given the same chair in the Denver and Gross College of Medicine, a position he still occupies. During his residence in Denver he has received the appointment of Surgeon to St. Anthony's, St. Luke's, St. Joseph's, the National Jewish and the City and County Hospitals, and Consulting Surgeon to the Mercy Hospital. In 1901 the University of Denver conferred upon him the honorary degree of M. A. He is a member of the City and County Medical Society and other local medical societies, the American Medical Association, the Western Surgical and Gynecological Association, and is a Fellow of the American Surgical Association and the International Surgical Association. Dr. Freeman has been a liberal contributor to current surgical literature, and in addition has written chapters for Keen's *System of Surgery*; Kleb's *Tuberculosis*; Peterson and Haines' *Text-Book of Legal Medicine*, and Sajous' *Annual*. Pleasing and direct in manner, a clear speaker, Dr. Freeman has a host of friends in Colorado as elsewhere who wish him a prolonged life of usefulness and prosperity.

#### HIGH SPINAL ANESTHESIA.

After the termination of Prof. Jonnesco's visit to this country, it is now possible to say more regarding spinal anesthesia in the upper cord and its possible field of usefulness. Spinal anesthesia by lumbar puncture is now established as a well-recognized surgical procedure, efficient and safe when properly applied. The attempt of Prof. Jonnesco to extend the field of spinal anesthesia to the upper body and head by making the puncture in the upper spinal canal has been brilliantly successful in some cases, but his demonstrations in

this country have shown that the procedure is attended by very real and grave risks. His method has been applied under the most advantageous circumstances and before men best able to pass authoritative judgment upon it. In a recent issue of the *New York Medical Journal*, two articles appeared, one by Dr. V. P. Gibney and another by Dr. Aspinwall Judd, which speak of the new method very guardedly. Dr. Robert Morris of New York, and Dr. Edward Martin of Philadelphia, have also communicated with the editors. Dr. Judd saw one case that showed dangerous shock; artificial respiration and oxygen had to be administered and for some time after the operation the patient suffered periodic attacks of violent delirium. Dr. Martin reports a case which narrowly escaped death in Prof. Jonnesco's hands and speaks of another in which the method was attempted by an imitator followed by the death of the patient. All these surgeons speak with high regard of the consummate skill with which Prof. Jonnesco inserts his needle and the judgment which he uses as to the dose of stovain injected. It should not be imagined that this method is free from post operative symptoms. Numbness of the lower limbs, headache, anorexia, nausea or any number of combinations of these, usually follow the operation and persist for a day or more.

The consensus of opinion so far seems to be, that high spinal anesthetisation by injection of stovain and neutral strychnine cannot be considered a substitute for general anesthesia, and if its use is ever justifiable it is only when general anesthesia is absolutely contra-indicated.

#### NOTICE.

The next meeting of the State Society occurs at Colorado Springs, October 11th, 1910. Those members of the Society wishing to present papers should send their names to the Secretary at once.

### *PREVENTIVE MEDICINE.*

By his studies on fermentation and his successful application of the principles evolved therefrom to the eradication of various diseases of animals, Pasteur furnished scientific medicine with a master key which has enabled it to enter upon a new and brilliant era of accomplishment. Following along lines concisely outlined subsequent workers displaced old theories of human disease by proven fact and have already demonstrated beyond the possibility of question the entity and causation of a large number of acute and a few chronic diseases. As a logical sequence of the discovery of the causation, methods of prevention and of treatment of these diseases are being developed which are daily becoming more direct, exact and successful. The influence of this work is even touching upon some of the chronic organic diseases and suggestions made foreshadow the determination and elimination of conditions responsible for their inception. The application of the principles established has recreated surgery and enlarged its scope, permitting of a success that is daily astonishing the world. Medicine is being revolutionized beyond recognition. The realm of the physician has been extended far beyond the mere treatment of disease and prevention of contagion in the family, arduous and confining duties which too often limit the point of view to the individual and restrict effort on broad lines. Within the short span of the present generation, before which no physician, with a few rare exceptions and almost exclusively in Europe, had the opportunity of gaining a livelihood in medicine apart from its application at the bedside, things have changed mightily. Today we find hundreds of the acutest well-trained medical minds throughout the world devoting their lives exclusively to original research, in the laboratory and in the field, in the stimulating atmosphere

of pure science, eagerly supported by large funds. The germ theory of disease has opened a new and vast field for medical endeavor, one that has yielded abundant rewards and remains rich in the promise of still greater blessings for mankind.

The results of the progress thus made in the science of medicine are seen everywhere in our daily lives. The absolute confirmation of the correctness of the deductions made has received its most convincing illustrations for the public in the field of preventive medicine. The eradication of the dread Malta fever by the avoidance of the goat's milk carrying the germ; the suppression of the bubonic plague by the destruction of the rat, host of the flea which transmits it; the elimination of malaria and yellow fever by controlling the mosquito and thereby changing Panama from a pestiferous slough of despond to a healthful zone, making feasible the great economic work now in progress, are but a few of the accomplishments which have forcibly demonstrated the accuracy of some of the late developments in medical science and their economic value to mankind.

The beneficent and far-reaching effects of these latter day discoveries cannot be estimated. The vast possibilities appeal to the imagination and are arousing the intelligent world. They appeal to the sentiments of the humanitarian in the promise of the more effective cure of existing disease; to the exacting economist in the increased effectiveness of the people, adding wealth to nations, and to the governments of the civilized world from every material and sentimental standpoint. Everywhere there is an awakening to the voice of this new science. Humanitarians are giving money with a lavish hand to institutions for the care of the disabled; governments and individual economists of large means, critically requiring substantial returns for their outlay, are



pleased to devote vast sums to foster and support medical research and for the prevention of disease where not a dollar and scarce a favoring word were available a few years since. Health laws, both national and local, long neglected, are being revised, new ones are being placed on the statute books, and the demand for their enforcement is coming from the people with an increasing insistence. Common diseases present in every community and known to be preventable are coming to be considered a reproach and intolerable. Widespread preventable disease is being attacked systematically in campaigns carefully planned and supported by abundant funds. Business methods are taking the place of sentiment in medical research as well as in the prevention of disease with a material increase of efficiency and results. The laity is vying with the profession in ardor and enthusiasm. Truly the age is moving rapidly to the dictates of this germ theory, and, while the future is never unfolded to our vision, it would now appear that the work so well begun is destined to have its fullest fruition in the prevention rather than in the cure of disease.

#### COUNTY SECRETARIES.

The annual society meeting of all the county societies takes place this month. The greatest care should be used in the selection of the secretaries. The success of the local society depends largely upon the activity of that officer. Many of our societies have one or more members who specialize upon the eye, ear, nose and throat. These men should make good secretaries for the following reasons. They are always to be found in their offices during office hours; they have a personal interest in being upon good terms with all members of the profession in their respective localities, and they should display an unusual interest in trying to have every reputable practitioner in the juris-

diction of the society a member of it, and that the membership should be continuous. The specialist should be willing to devote more time to the office without compensation than other members, because he is under many obligations to the profession, and this is one way of discharging the obligation. He should be willing to continue in office as long as he is re-elected.

Newly elected secretaries are urged to at once obtain from their predecessors all the records, papers, report cards and other effects of the office, and to give a receipt therefor, and a copy of the receipt should be transcribed in the minute book of the society. The reason for this is that in the event of the charter or some valuable paper being lost it can be traced to the last secretary who had it in his possession.

One of the first duties of the newly elected secretaries should be to ascertain whether all newly elected members had been reported to the State Secretary, and if not, to so report them upon the report cards furnished by the State Secretary for that purpose. *All Secretaries should report promptly the results of the annual election to the State Secretary as well as all subsequent meetings during the year.*

#### PHARMACOPEIA REVISION.

The United States Pharmacopeia, first called into being by Dr. Lyman Spalding of New York, in 1817, and dedicated to the needs of the medical practitioner, is in grave danger lest it become a purely pharmaceutical rather than a medical compilation. There is also danger of its control by commercial interests. Such a result can come only from lack of active interest on the part of the medical profession. The Journal of the American Medical Association, in an editorial of December 4, urges each state society to send its full quota of delegates to the coming convention and ends with the following invitation: "If every county society will devote one evening to the discussion of this question and

will send its recommendations to Dr. Reid Hunt, chairman of the committee of the American Medical Association on the Pharmacopeia or to the Council on Pharmacy and Chemistry of the American Medical Association, their recommendations will be transmitted to the convention and will receive consideration."

The county societies of Colorado should take an interest in this matter and send in their recommendations.

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### OUR ADVERTISERS.

We desire again to call attention to the advertising columns of COLORADO MEDICINE and urgently request our readers to patronize those who favor us. Advertisers must have satisfactory returns else they will decline to renew their contracts. Our friends and fellow members can aid this journal and assist the State Medical Society most effectually by favoring our advertisers and giving them substantial reasons for renewing their advertisements. We have every reason to deal with them whenever anything in their respective departments is needed. It is as much to our interest as it is to theirs. *Deal with our advertisers, mention COLORADO MEDICINE, and back up your State Society journal.*

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### THE DEFENSE OF MEDICAL RESEARCH.

It is well at this time to call attention to the work that the American Medical Association is doing in the benefit of the defense of medical research. It may seem to many that there has not been agitation enough in the United States to cause any serious interference with this branch of medical progress. This is not the case. At least six anti-vivisection societies exist in this country, each advocating the abolition of the use of living animals for medical purposes. "One of them publishes a

monthly paper," others distribute literature broadcast. The Journal of the American Medical Association in a recent editorial emphasizes "that the proper method of repelling the attacks of the anti-vivisectionists is to enlighten the public regarding the use of animals for medical advancement and regarding the benefits to man's estate that have come therefrom." Last year the American Medical Association appointed a council on the defense of medical research. This council has arranged a series of papers, the first of which appeared in the New Year's issue of the Journal.

It is to be hoped that the weight of medical opinion in this state will be exerted with all possible force against the anti-vivisection movement and that each doctor of every county society will aid in his particular location the work of this Council.

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### THE AMERICAN MEDICAL DIRECTORY.

The second edition of this book is now in our hands. It contains over ten per cent more names and over twenty per cent more matter than the edition of 1907. The book is a large volume, quarto, four inches thick, and a perfect mine of information concerning doctors throughout the United States and Canada. The alphabetical index is very complete. As a reference work, it should be in the library of every physician in Colorado.

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It is most gratifying to note the interest being taken in the work of popularizing the knowledge of tuberculosis and its prevention. This movement has finally reached Colorado and the energy with which it is being pushed by the Committee in charge gives promise of great results. Every aid possible should be freely rendered.



## Original Articles

### *ARTIFICIAL LYMPHOCYTOSIS AS A POSSIBLE AID IN THE TREAT- MENT OF TUBERCULOSIS.*

BY DR. GERALD BERTRAM WEBB, DR. WM.  
WHITRIDGE WILLIAMS AND DR.  
A. F. BASINGER.

In an address delivered before the Denver County Medical Society in April, 1909 (1), attention was called to a blood change due to altitude, which had hitherto been overlooked. The percentage of mononuclears in the blood was found to be about thirty per cent greater at Colorado Springs (6,000 feet) than at sea level.

A great amount of research work on tuberculosis, in the last few years, has brought forward the fact that the lymphocytes constitute the chief army of defense against the tubercle bacillus, and it was therefore reasonable to suppose that the increase in this type of leucocyte brought about by altitude would help to explain the known benefit of elevation to tuberculous invalids.

It is especially noteworthy that during the past year, Berger, (2) in Germany, and (3) Marie and Fiessinger, in France, have made the important discovery that the lymphocytes contain a ferment of lipolytic power capable of splitting wax and fat into glycerin and fatty acids. Following Opie's method of nomenclature we would suggest for this ferment the name of lympholipase. It has long been known that at least thirty per cent by weight of the body of the tubercle bacillus is composed of waxy substances, and the chronicity of tuberculosis has been thought to be due to the difficulty the defensive mechanism of the host must have to destroy this waxy substance. The importance, therefore, of the discovery of the increase in lymphocytes due to altitude is enhanced by the discovery of lympholipase.

Ziintz and others discovered some years

ago that the increase of red corpuscles induced by altitude was due to a condition of hyperaemia of the bone marrow, and we suggested that this same increased activity of the bone marrow might be responsible for the mononuclear increase. We have now evidence to offer that this may be so, and also we have thought worth reporting a method of artificially increasing the mononuclears in the circulating blood.

It was argued that, if bone marrow hyperaemia provoked the increase of mononuclears reported, then artificial hyperaemia of accessible bones should yield the same result. To this end a rubber bandage was applied as a tourniquet to the legs as high up the thighs as possible with sufficient pressure to interfere with the return venous flow, but not enough to obstruct the arterial.

It has been shown by Opie (4) that the injection of living leucocytes consisting of an approximately equal suspension of polymorphonuclear and of mononuclear cells, obtained from normal dogs and injected into dogs which have been artificially infected with the tubercle bacillus, can inhibit the development of tuberculous lesions. We have initiated experiments on rabbits, which will be later reported, with the purpose of ascertaining if similar results can be obtained in animals, artificially infected with the bovine type of tubercle bacillus, by the employment of the principle we have above suggested.

It can at present be stated that leucocytosis can be produced in rabbits by the artificial production of hyperaemia of their hind legs. The accompanying table of results with the procedure applied to man is self-explanatory. We are aware that a leucocytosis can be accomplished by what is known as Bier's hyperaemia, but the procedure we are investigating is based on a different principle, is applied in a different manner and has in view a

different end, namely the production of a lymphocytosis which the figures reported would suggest has been arrived at.

The method of treatment has been applied to some twenty cases of pulmonary tuberculosis, and encouraging results have been obtained which will later be reported.

The following guide to the method of treatment should be observed:

(1) The best time for the application is daily at bedtime.

(2) Ten minutes should be the duration of the first treatment, followed by 20, 30, 40, 50 minutes up to one hour if the patient can stand it.

(3) Patients must be cautioned never to fall asleep with the bandage on.

(4) It is wise to have a second person present during the application.

(5) The rubber bandage should be removed slowly from first one leg and then from the other.

The subjective symptoms are, a swelling of the legs, the skin becoming reddened or even bluish and a feeling of drowsiness in most cases, local discomfort is not marked, but some numbness and tingling occurs.

The results so far obtained are an average total of mononuclear increase of 75 per cent in normal individuals after one hour's application, and 18 per cent increase of mononuclears after one-half hour treatment. The mononuclear increase is much more marked than the polymorphonuclear. Two nucleated red corpuscles (normoblasts) were observed in the blood slide from case 1.

The theoretical considerations of this suggested method of treatment cannot be gone into here, but it is possible that the benefits derived from the time-honored hot mustard foot bath will find explanation when these are worked out.

(Received for publication Dec. 4, 1909.)

1. Webb & Williams. *Some Immunity Problems in Tuberculosis*. Colorado Medicine, April, 1909; and, *Some Haematological Studies in Tuberculosis*. Transactions of National Association for the Study and Prevention of Tuberculosis, 1909.

2. Bergel. *Fat Splitting Ferment in Lymphocytes*. Munchner Med. Woch., 1909, No. 2, Pp. 64.

3. Marie and Fliessinger. *Comptes Rendv. Societe de Biologie*, July 23, 1909.

4. Opie. *The Effect of Injected Leucocytes Upon the Development of a Tuberculous Lesion*. The Journal of Experimental Medicine, April, 1908.

#### NORMALS. ONE HOUR.

	Total Leucocytes			Percentage Mononuclears			Total Mononuclears			Total Polymorphonuclears.			Percentage of Change.			
	Before	During	After	B	D	A	B	D	A	B	D	A	D	A	D	A
I.	6684	7372	14784	39	46.5	55	2607	3428	8131	4010	3907	6579	+30	+211	-2.5	+115
II.	9900	11280	14556	39.5	43.5	41	3911	4907	5968	5940	6317	8588	+25	+52	+6	+45
III.	5460	....	8280	51.5	...	61	2811	....	5050	2457	....	3229	..	+79	..	+31
IV.	11076	11208	15504	42	44	50	4652	4932	7752	6092	5884	6977	+6	+69	-3	+14
V.	7620	8496	11844	50.5	41	49	3848	3483	5804	3620	4758	5567	-9	+50	+31	+53
VI.	5976	....	5526	53	...	52	3167	....	2874	2809	....	2652	..	-9	..	-5.5

#### NORMALS. ONE-HALF HOUR.

VII.	9816	....	12168	37.5	...	39.5	3681	....	4806	5939	....	7118	..	+30	..	+20
VIII.	11472	....	16416	38.5	...	33	4407	....	5417	6482	....	10588	..	+23	..	+63
IX.	5040	....	5676	61.5	...	51	3100	....	2895	1940	....	2753	..	-7	..	-42

#### TUBERCULOUS.

X.	7692	7560	10560	40	41.5	41.5	3077	3137	4382	4961	4082	5649	+2	+42	-18	+14
XI.	15372	....	15768	23	...	27.5	3536	....	4336	11836	....	11432	..	+23	..	-3
XII.	10176	....	10936	36	...	37	3653	....	4046	6258	....	6835	..	+10	..	+9
XIII.	7440	....	9600	36	...	34	2678	....	3264	4724	....	6240	..	+22	..	+32
XIV.	14136	....	18204	21.5	...	37.5	3039	....	6826	10743	....	11286	..	+125	..	+5

I. and IV. bandage removed at end of 50 mins., due to patient complaining of faintness, nausea and falling vision. V. 40 mins., nausea and faintness. VI. 50 mins. IX. 25 mins., throbbing in legs. X. 53 mins., nausea. XI. 45 mins. XII. 40 mins. XIII. 30 mins. XIV. 23 mins., nausea and vomiting.

## PSYCHOTHERAPY IN SOME POST OPERATIVE CONDITIONS.

EDMUND J. A. ROGERS, M. D.

It is not my purpose in this paper to enter into any discussion of the theory or technique of psychotherapy, but simply to give in a summarized manner results obtained in a class of cases which may be termed "surgical." Nor will I in any way discuss the surgical aspect of these cases, but will try to give such features of them as will enable any surgeon to make ready use of them in his practice.

Case 1. Some four years ago I had under my care a young woman upon whom I had operated for well marked, recurrent appendicitis. Although, surgically, very satisfactory, the operation did not bring her the comfort which we had good reason to anticipate and for many months she had been frequently coming to my office begging for relief from indefinite, dyspeptic symptoms, dragging and distressing pains and general abdominal tenderness.

I had in turn exhausted my resources in intestinal antiseptics, sedatives, digestives, and everything else that I could think of, only to have her come back again in a short time with the same old unhappy complaints. I was in despair. I was at this time beginning to learn something of the power of the mind in controlling physical conditions. One day, after examining her abdomen with the same indefinite results, a happy inspiration came to me and I told her of the relief that would certainly come through a passive, concentrated expectancy.

As she lay quietly, I made those optimistic assertions of self control and health which sound so absurd to the unfamiliar. She seemed surprised and dazed but promised to return next day, when I repeated the procedure. This day when I had finished and said: "Now, you are all right and may get up," she did so with a completely changed manner. Her com-

plaining timidity was gone and with a boldly assertive air she said: "Doctor, this is not right. You have not treated me properly nor fairly." I was a little disconcerted and began to protest and question her, but she only accused me the more, saying: "I don't think it was nice or honest of you. I did not think you would treat me in this way." "But," I said, "what have I done?" She answered: "Have I not been coming here to you for months with this pain and distress in the bowels and haven't you been giving me all sorts of medicines and having me come again and again, when at any time you could have relieved me in a moment as you have now. It is not fair."

And she was relieved for she has since had no return of these symptoms. She taught me a lesson, however, and her rebuke has stimulated me many times since to relieve "in a moment" many a suffering patient.

I have had many experiences similar to this and I hope I may always be as able as I am willing to thus learn a new lesson in my art.

Case 2. About Dec. 1st, 1907, a doctor practicing in one of the Mississippi Valley cities sent his wife to me with this history:

Some ten years ago she had been operated upon for chronic appendicitis and one diseased ovary had also been removed. Recovery was slow. A year later Dr. Fenger had removed a mass of tubercular glands from the axilla. Before recovery was complete she had spent several months in a sanitarium. In 1905 abdominal symptoms returned and the other ovary was found to be diseased and was removed. Recovery was much slower and she was now subject to attacks of great fatigue and depression. In the summer of 1907 her condition was said to be one of extreme neurasthenia. A tubercular test was negative. She was ambitious and anxious to be well but suffered from great depres-

sion and exhaustion upon the slightest exertion and life seemed unbearable. I advised rest and visited her and talked to her during December and until January 7th, 1908, when she returned to her home. During January and February she wrote that she was well, and on April 8th her husband wrote:

"I think my wife was perfectly well; \* \* \* She had been doing her own housework for several weeks in spite of my protest and she enjoyed life, \* \* \* when, in March, her father became seriously ill and for over four weeks she did her full part in attendance upon him. (She now) looks very well indeed, and, though tired, is no more tired than the rest of the family. She takes an entirely different view of life from her former attitude. Her aches and pains have entirely disappeared and she has ceased to worry. I consider her entirely well, though, perhaps, she has not the endurance she once had."

In the fall of 1908 she called upon me in Denver and stated that she had been perfectly well every day since she had first recovered.

I shall now report a few cases of a more severe and complicated type. I do not select them on account of the attainment of ideal results; all I can claim is that I know of no other treatment through which similar results could be brought about; I select them on account of the varying conditions in each case, each presenting a distinct combination of symptoms which are, individually and collectively, of great surgical interest.

Case No. 3 came to me in January, 1909. She was born in Baltimore 53 years ago and had spent most of her life there or in Washington. She was married when 19, her husband having a tubercular history. She was desperately ill with "peritonitis" during her first and only complete pregnancy. Following the birth of her child she had pelvic disease and, later, constant and severe sciatica. In 1890 on account of these both ovaries were removed and other pelvic conditions repaired. But her health remained poor and during the next few years she had two severe illnesses said to have been pleurisy, which left her

with a very weak heart. Her condition was now, undoubtedly, aggravated by worry attendant upon financial disaster. In 1902 she was kept for three months upon a milk diet on account of disease of the kidneys accompanied by severe headache and backache. Her heart also became much worse and valvular disease was discovered; there was much dysnoea and when she tried to lie down her heart "thumped very hard and seemed to stop." Both legs became swollen and the left leg became very bad. The swelling extended and remained from the foot to the knee. The skin became dark and congested; hard lumps formed under the skin and there was every indication of chronic disease in the veins. No ulcers formed, however. This condition had continued ever since. She was now always ill. Headache became constant and she was often confined to bed all day with it. In 1905 she was laid up for five months with "la grippe." In 1906 dyspeptic symptoms, especially severe heartburn, became constant. She says that in spite of the care of the best physicians in Baltimore and Washington she gradually grew worse and worse. She stated that she had come to me chiefly on account of her constant severe headache and her dyspepsia, and said that medicines now gave her no relief and that she wished to try suggestive treatment.

Her general nourishment was not so bad as one would expect from this description but examination confirmed the conditions which she had catalogued. The left leg was greatly swollen from the knee down; the skin chronically discolored and congested, many hard lumps forming and disappearing, but no ulcers. She stated she had worn her elastic bandage constantly, when up, for seven years. Her heart showed a loud mitral systolic murmur but there was good compensation. Her urine indicated some slight disorder of that



tract. Her headaches seemed to be severe and prostrating.

I saw her frequently until she returned east on February 20th, over a period of some six weeks. She was greatly improved at the end of this time.

Strange to say the earliest relief came to the leg; the tension was so relieved that on the third day she left off her bandage and did not resume it. Her other symptoms followed, the dyspepsia being the most refractory.

On April 8th she wrote:

"My ailments are things of the past \* \* \* the heartburn has yielded to my persistent efforts \* \* \* and I have no more headaches, nor does my leg give me any trouble whatever; \* \* \* for five years I had never known relief from severe headache and the condition of my leg was such that I was obliged to wear a bandage tightly bound in order to keep down the swelling and many times the leg seemed to be on the verge of bursting. But now I am absolutely free from pain and able to walk as much as I please."

She then speaks of her greatly improved mental condition.

During the summer her friends reported to me that she had sustained further financial disaster and that her husband had been seriously injured in a railway accident. She had, in consequence, been obliged to return to Baltimore and was under medical care, but, oddly, none of the old symptoms had returned. She was suffering from what was termed "spinal neuralgia of the arm."

Case 4. In August, 1908, a very unfortunate young woman was sent to me by Drs. Spivak and Freeman, whom she had just consulted for the first time. She gave this history:

She was born in Rochester, Minn., in 1885. Her family history and her environment tended to develop neuroses. She became markedly constipated when eleven years old, suffered much, and often went "three or four weeks" without a movement. At fourteen one mammary gland was removed in Rochester for a benign growth. At fifteen she weighed 130 pounds.

Dyspeptic symptoms now became marked; her stomach distended; her constipation grew worse and worse. She removed from Rochester and made her living as a stenographer. When she was eighteen gastroenterostomy was performed in the hope of relieving her abdominal symptoms, but they became more aggravated. Gradually she took less and less food as she passed from the care of one physician to another. Indeed, food caused such distress that in the spring of 1908 she almost constantly fasted. In consequence, her general exhaustion and prostration were marked, there was much swelling of the legs and her mental and physical distress was extreme. During the last three weeks her total daily allowance of food had been one cup of whey with 15 drops of bovine taken in teaspoonfuls. Her weight was now reduced to 85 pounds.

I placed her in St. Luke's Hospital, isolated her and at once began giving milk in small, regular and frequent quantities. Terrible as her condition was physically, mentally she was even more to be pitied. She continually cried for death to relieve her from her suffering and every word was a wail of distress.

Under these conditions, of course, we had to go through a desperate fight and it took hours of talk to persuade her to persevere. However, she made some progress from the very first.

Perhaps, the most difficult problem was the constipation and I made the serious mistake of allowing her to take purgatives for a short time. She remained in bed in the hospital some five weeks. By this time she was beginning to take a little more substantial nourishment and now she soon came to three regular light meals each day. The bowels, however, would not yet move without enemata. Slowly, all her conditions improved.

When I called to see her on October 15th I found that she had suddenly

changed her attitude of mind. She met me cheerfully and stated that she had a confession to make. It was that feeling hungry in the night she had taken a box of raw rolled oats and had eaten the larger part of it and then gone back to bed and slept soundly. On waking in the morning she had the first full natural stool for eight years, and said she felt like an entirely new woman. From this time on improvement was much more rapid. In February she was able to take a position as stenographer again and seemed cheerful and happy.

In March she disappeared entirely and I did not see her again until about the middle of May. She stated that she was then returning to her home in Rochester, Minn.; that social and financial conditions had so gone against her that she had become disheartened. I tried to persuade her to remain and again come under treatment, but she said that, under the circumstances, she positively could not do so. She did not seem to have really lost ground but had certainly not gained any. She still weighed 100 pounds. Towards the end of June she wrote, saying she was working hard and had made considerable improvement in strength; was taking two regular meals a day but had to be careful with her diet and was obliged to use enemata on account of her constipation. She wrote encouragingly and cheerfully of the future and expressed the utmost confidence in her ultimate complete recovery.

I am satisfied that, could she have remained under treatment under good conditions in Denver, she would certainly have regained a reasonably good condition of health.

Case No. 5 was placed under my care by Dr. Arneil on Jan. 5th, 1909. She was born in a city in the Middle States in 1876. She had always been a delicate child, having many illnesses and being always subject to bowel trouble and dyspep-

tic symptoms. Always nervous and an active worker. Dysmennorrhoea became severe when she was eighteen and her health gradually became worse. In 1902 she was sent to Colorado for a "nervous breakdown" and a "bronchial cough." Some temporary improvement but worse again in the winter of 1904-5, when she was operated upon for hemorrhoids and curetted. After her operation, however, she became much worse; the rectum became very painful and the pelvic distress marked. She came to Colorado again in the fall of 1905 in an exhausted condition; indigestion and nervousness being extreme. In May, 1906, she was operated upon for appendicitis. In this operation it was explained that the coccyx had been fractured and displaced and that this was the cause of her pelvic and rectal distress. She improved sufficiently to return home in four weeks, but the pelvic symptoms grew rapidly worse, the pains radiating from the rectal region all through the abdomen. In January, 1907, she went to the Battle Creek Sanitarium for four months. She now used daily enemata, which were followed by scalding mucous discharges. The coccyx had now become so painful she could not sit down and it was removed in September, 1907. The wound healed readily but the symptoms were not relieved except that she "could not feel the bone grinding round" as before. Returning home she grew rapidly worse; could hardly walk; coughed badly and soon went to bed with a "nervous collapse." In December, 1909, she was sent to North Carolina with a trained nurse; became a little stronger but the cough grew worse and worse. In February, 1908, the diagnosis was made of tuberculosis of the lungs and tubercle bacilli were found in the sputum. She now grew rapidly worse and lost her voice completely, though she had little or no temperature. As the thoracic symptoms developed her abdominal symptoms improved but re-

turned later, the throat and lungs growing better as the abdominal symptoms increased. In June tubercle bacilli were found in her stools. She remained in bed out of doors during the summer but gradually grew worse and was brought to Colorado in her bed in October and placed under the care of Dr. Arneil. She made some improvement. It was concluded, however, that suggestive treatment would bring greater relief than medicinal and she was brought to me at the time stated.

The abdominal distress was marked and pains extended all over her body. There were said to be grinding pains in the bones, especially in the right shoulder. She remained under my care from January 5th to May 19th. Improvement was marked from the first. She immediately gave up her bed in the day time, began eating regularly, talking more cheerfully and taking a happier view of life. She very reluctantly gave up the use of purgative medicines which she had long been using. The abdominal pains, especially those in the rectum, were most obstinate, but they gradually improved. She constantly did more and more about the house and began going out. She sent her trained nurse home about March 1st and became more independent and self reliant in every way. She was still, however, obliged to use oil enemata occasionally, for her bowels. Each month there was some improvement in her dysmennorrhoea as well as in general health. During April she spent much time out of doors, making frequent excursions into the suburbs and occasionally down town. She became happy and was always on the go. She was eating well and getting a good deal out of life and was an entirely different woman from what she had been in January.

By May 19th she had concluded she was well enough to get on without my aid and passed entirely from my observation.

Case No. 6 is, perhaps, the most complicated and the most interesting that has

come under my observation in both its physical and mental aspects, but I may only give a very brief summary of it at this time:

This patient, after a very precocious and nervous childhood, with repeated prostrations became a confirmed invalid. During five successive years she was five times in hospital, twice for nervous exhaustion and three times for minor surgical operations. She states that each new physician called upon located the focus of her troubles in a different organ and advised another surgical operation. After some years of varied suffering in 1898 she had a major operation. It seems, however, only to have aggravated her condition. Her mental depression now became extreme, while fixed ideas increased and became more marked. She had constant dyspepsia and general abdominal distress; repeated attacks of palpitation and prostrating perspiration. During these years two severe physical conditions alternated in their virulence—one, repeated pulmonary and intestinal hemorrhages, which at their worst occurred nightly for some three months at a time and sometimes exceeded half a pint of blood in a night; and the other, extensive skin eruptions said to have been "neurotic eczema" accompanied by boils. This eruption at its worst covered her whole body under her clothes, never entirely disappeared, and was generally complicated by much subcutaneous swelling in parts of the body. These two conditions of hemorrhages and eruption seemed to displace each other, one growing worse as the other improved and the reverse. During the past seven years she had, each July and August, hay fever, accompanied by burning and distress in the alimentary canal, so severe as to compel her each summer to leave Denver. Severe as were her physical sufferings during this decade she states that the mental depression and distress were more unbearable.

When she came under my care in Octo-

ber, 1908, she stated that for sixteen years she had not slept without narcotics.

She at once readily gave up all medicines and placed herself under the graduated Dubois milk diet. She had a very severe battle during the first few months. In the course of the first month she had three hemorrhages from the lungs which, however, progressively diminished in severity and then, finally, ceased. Her skin eruption also gradually disappeared and it was not many weeks before the mental symptoms began to clear. Her improvement was constant and progressive throughout the winter, and in the early spring she entered into a very active social life, constantly attending minor social functions and steadily improving mentally and physically. As the hay fever season came on, however, she had a new battle, but it never really gained a hold over her, as with a little assistance she was able to speedily overcome each individual attack and she remained in Denver throughout the summer.

While she is far from being in a state of perfect mental and physical equilibrium, the change is so great that she is a source of constant astonishment to all who know her intimately.

I shall now briefly mention a case which belongs to a group, the number of which is constantly growing.

Case 7. On March 2d, 1908, I was called by an old patient to visit a sister who had just been brought home very ill. She gave the following history:

She had come to Colorado for tuberculosis several years ago and the disease had been arrested. Unable to continue her musical profession, she had taken up a more laborious work. As long as she remained living away from the center of town she had preserved her health, but last fall she had taken a room in a downtown block. Here she began running down quite rapidly in general health. During December severe uterine hemorrhage be-

gan and continued with little intermission. Early in February general abdominal symptoms developed and her condition became very serious. Various diagnoses were made by different physicians, such as appendicitis, uterine fibroid, etc. At last one of our ablest and most respected surgeons was called in and he advised immediate removal to a hospital for an exploratory abdominal operation. To this she had consented when her relations, upon whom she was now dependent, discovered her plight and removed her to their residence and placed her under my care.

After examination, I placed her on the graduated Dubois milk diet and stopped all medicinal treatment. In some three days all pains and abdominal distress had disappeared, the hemorrhage rapidly ceased, and in three weeks she was up and she gradually resumed her ordinary life. By last reports she has had no return of any of the abdominal symptoms but, I am informed, that she has returned to the same social and mental environment that previously existed, and it will be surprising if she does not have some recurrence of her troubles.

(Read before the Colorado State Medical Society, Sept. 16th, 1909.)

#### DISCUSSION.

**Dr. T. M. Burns:** None of us take the interest in the use of suggestive therapeutics as often as we should. In all functional conditions and many organic, suggestion plays a great part, either for good or for bad. I wish to speak more with reference to obstetric cases. I remember a case of puerperal infection with a temperature of  $105\frac{1}{2}$ , pulse between 150 and 160, the patient had just bled her husband good-bye, saying she was going to die. I told her that I did not believe she was going to die, and that I was going to leave the house, and when she changed her mind about dying that I would come back and help her get well. I left the house. In a few moments she told her husband that she thought she would take my advice and get well; and she did. In cases of nausea and vomiting of pregnancy I believe suggestion plays a great part. I will just cite one case. After the usual treatment of stopping all food by the stomach and rectal alimentation the patient did not improve. She was a patient of Dr. Mary E. Bates, and did not want a male physician. Dr. Bates told her that if she did not stop vomiting she would have to



go to the hospital and be under my care. She immediately stopped her vomiting.

Suggestion in labor cases is of great value, but it is difficult to overcome all sense of pain. Suggestion can often be aided by the use of chloroform, and this is of especial value in emotional patients, and particularly in those inclined to vocal music. I produce what might be called a singing stage of anesthesia. That is, I give the patient enough chloroform to stop her knowledge that she is having pains, but while still able to hear I suggest to her to sing, and if I get the patient to sing I can deliver her without her having any knowledge that she is in pain. In a case at the hospital a short time ago, with good surroundings, I succeeded in keeping the patient in this condition for an hour and a half. She sang a number of songs, and to show you that she was not really under the anesthetic I will state that as different nurses came in she called them by name and talked to them, but made no reference to her pains, which I could determine by examination. When I wished her to bear down, I would tell her to try to make her bowels move, making, of course, no allusion at all to pain. The baby and after-birth were delivered and the patient back to her room in bed before she had any knowledge of pain. I have not been able so far to obtain complete suggestion except in the patients whom I could get to sing.

**Dr. F. E. Waxham:** I feel that there is a great deal to be done in the way of suggestion. I recall a case to which I was called one time where a girl some fourteen or fifteen years old was choking. She was breathing with great difficulty, and could be heard all over the house. The physician who called me assured me that if he had had anything but his pocket knife he would have opened the trachea before I reached the case, as she seemed to be in such a desperate condition. I did not stop to examine her but immediately prepared my instruments and endeavored to do an intubation. She was placed upon the lap of a neighbor and the gag held by an assistant. As I passed the tube into her throat, and was about to introduce it in the larynx, she gave a jump and a scream. She was unable to speak before that and was breathing with the greatest difficulty. As the result of her springing from the arms of the assistant the tube passed into the oesophagus, and as I withdrew it with the string which was attached to it. To my astonishment she breathed with perfect ease, and I simply suggested to her to get up and go to bed, and sleep and behave herself, and if she did not I would repeat the operation. That suggestion was all that was needed, and she made a good recovery and there was no return of the symptoms. It seems that she had seen a child choke to death a few days previous from diphtheritic croup, and it occurred to her that she had the same trouble and presented the same symptoms.

I remember another case—that of a lady to whom I was called in great haste and found her apparently paralyzed. She could not move a finger; could not move her hands or either arm even when pins were thrust into them, but

she could use her tongue very successfully. It occurred to me that a person paralyzed in both arms could not use the tongue, and so I suggested to her that in the morning she would be able to use her hands and her arms, and would be all right. I gave her a placebo and sure enough in the morning she had recovered.

But seriously I think Dr. Rogers is entitled to very great credit and honor for bringing this subject of suggestion so clearly and prominently before the profession as he has done. I think there is a great deal in it. I think Dr. Rogers has accomplished a great deal of good and will continue to do so.

**Dr. Charles S. Elder:** This paper of Dr. Rogers' presents not only the successful results of treatment by psychic methods, but it shows us the futility, yes, the injustice of treating certain cases by any other methods. The reports of psycho-neuroses treated by operations on various organs make the saddest chapters in surgical history. Hardly a new operation has been proposed or come into general adoption but it has been generously performed on those whose mental affections simulate so many bodily disorders. We need but recall Battay's operation of oöphorectomy and Emmet's theory of reflex neuroses due to a cicatricial plug in the cervix uteri that were to be cured by trachelorrhaphy. The most obvious symptoms of appendicitis are becoming so generally known and their onset so commonly feared and watched for that we have beyond cavil a psychic counterpart of this common affection. Gastroenterostomy will be frequently misapplied so long as ulcer and nervous dyspepsia are confused.

If surgeons are to clear themselves of the accusations frequently made of having too great confidence in their therapeutic power or of avarice in the pursuit of their calling, they must familiarize themselves with the psycho-neuroses in all their protean manifestations.

There is no condition of consciousness so potent as belief. It separates the real from the unreal. It makes the smallest historical fact impressive as contrasted with the grandest fictitious event. Our whole life rests upon belief, yes, its very continuance depends upon the correspondence of our beliefs with external conditions. If this should seem doubtful and abstract an illustration might make it more acceptable. We know what the effects of heat have been. We believe that they will continue to operate as we have known them to do. This confidence in our experiences enables us to avoid the painful effects of bodily exposure to great heat, on the one hand, and, upon the other, to turn this agency to our advantage in many different ways. A failure of this familiar bit of knowledge, acquired early in life would expose us frequently to fatal injury and greatly curtail the production of wealth and means of comfort.

That belief may correspond to reality we must know the genesis of it, the grounds upon which it rests. If it can be induced in the mind of one by the mere assertion of another who assumes the role of authority or by mere suggestion, whatever that may mean, so long as it

excludes inference from fact, the bond between belief and reality is broken and belief will depend alone upon the will of the suggestor or upon the whim of the susceptible subject.

It is exactly this facility of acquiring conviction in this unlawful way that lies at the bottom of the psychoneuroses. Advantage may be taken of this weakness in substituting by suggestion a pleasant for a painful sensation and thus instituting relief from present complaints, but the disease is still there. Like any faulty mental habit it is to be removed, not by suggestion, but by education alone. To which lofty means of treatment let the physician ever apply himself nothing loath.

**Dr. J. Elvin Courtney:** I do not know that I could add anything in the way of description of treatment to what Dr. Rogers has said, and I certainly should not like to appear to be actuated by a more commercial spirit than those who have spoken, but it seems to me one of the best points in all this is the possibility of getting business from Christian Science practitioners. We ought not to forget the practical side of that, and the doctor is somewhat handicapped by his failure to give publicity to his cures. I believe that it is customary in the Christian Science church in cures like Dr. Rogers has effected, to present them in a pretty florid manner, much more so probably than he has, because he has allowed for the possibility of incomplete cures. Their cures usually are "complete," and to give them out and describe them before a whole church full of people is a considerable advantage, whereas we can only describe them to our fellow physicians. I believe that with greater publicity a good bit of business could be brought into more legitimate channels. I would mention a case that Dr. Rogers had, and that I saw. A man from Leadville who had hypochondria, depression, and some symptoms referable to the liver, in any event he by his persistence and belief in his symptoms induced his surgeon to operate on him for gall stones, or for some condition of the liver which did not exist, as the operation showed. He then came to Denver and sought treatment for his condition, which was neurosthenia and melancholia. He improved here, stayed five or six months, gained weight and went back home conceding that he did not have this liver trouble and very angry with the surgeon who had operated on him, threatening him with a suit and refusing to pay his bill. I have not heard from the man until this meeting, when I met a physician from Leadville who told me that the man had now forgiven the doctor, withdrawn his suit and paid his bill, so I conclude that the man has fully recovered.

**Dr. E. W. Lazell:** I cannot let this subject go by without a word of challenge and mention of small details. In the first place this is a live subject. Dr. Rogers has taken hold of it with a great deal of enthusiasm, and the profession is going to be vastly benefited by the way in which he has encountered opposition and stuck to his subject. The Christian Scientists, I believe, do their wonderful cures in

just such a way as this. The points that have been brought out since Dr. Rogers spoke were also pertinent. The attitude of the profession when suggestion is spoken of is that it is some wonderful thing; that it is something that only one man has his fingers upon; that it takes a James or a professor of psychology in a university to understand its use, which is to make a bugbear of the whole business. I have watched you here as we listened to Dr. Elder's classical talk, and I doubt that very many of you here were hungry. I suggest to you that it is now five minutes to one, and many of you feel hungry. Just think of it a minute, and listen to the tinkle of the glasses out in the other rooms; how many of you think that you might like a glass of water? I speak to the general practitioner. When you see a patient who is suffering as in this very instructive list of cases such as Dr. Rogers has given us; from a pure hysteria in one case to a man with neurosthenia in the second case; from a typical case of hysteria with psychasthenia in a third case, all of them treated by the Weir Mitchell method, all of them improved, and all having received the suggestion that they were going to improve; from a hysterical loss of vaso-motor control in one case to a hysterical hemorrhage of the bowels, and from the lungs in a second case, and I ask you, gentlemen, where is the wonderful thing in all of this, and why should the general practitioner stand aghast at the very suggestion of the word hypnotism or hypnosis or suggestive therapeutics. I invite your attention to this theme because we all owe it to our patients. We do not treat animals, we are practitioners of medicine, and devote our time to the human subject; and if I am not mistaken that human subject has a mind, the more that mind is diseased, the more open it is to suggestion, the more it demands suggestion. But I call your attention to the fact that it is not only a diseased mind that needs suggestion, that responds to suggestion. I have illustrated how we all grow hungry at the suggestion of the dinner hour; all grew thirsty at the look of the cool ice in the glass. We should call the attention of the general practitioner once more to this subject, the full appreciation of which, only, will save the glories of the practice of medicine to the medical profession and wrest it from the hands of an unskilled and an unscientific but truly enthusiastic class and sect of people known as the Christian Scientists and from all the other "isms" which have so lately developed. You must—we must absorb this power of delivering suggestion to our patients, and only when that is done will we as physicians have attained our greatest acme of perfection.

Once more I wish to acknowledge that I feel the whole profession and everyone of us must thank Dr. Rogers for keeping ever at us on this subject.

Not to bore you any longer, but to mention one or two personal cases. A gentleman in the back part of the room has a case he brought for after-treatment. An operation had undoubtedly been indicated. After the operation the woman was run down, confined to her bed; she had hysterical or other sort of spasm two

or three times, and was altogether absolutely miserable; the diagnosis was made, suggestion was given, treatment carried out for a week or two and the patient was well by her own help assisted by the influence of the physician. Another case quite recently seen: A woman was lying in bed absolutely paralyzed below the waist, with a hysterical contracture of both feet, absolute anesthesia below the waist; the suggestion that she was a sick woman but was going to get well; the application of the thermo-cautery, and I discharge the patient. I invite your attention to this once again and suggest to you that the only way the medical profession can wrest her laurels back from the Christian Scientist is a thorough appreciation on the part of the general practitioner of the very simple rules and the simple application of suggestive therapeutics.

**Dr. F. W. Kenney:** We all love Dr. Rogers and have the greatest respect for his position on this subject. I suppose, however, that most of us are still treading the thin ice of disbelief as far as the efficacy of this treatment for most troubles is concerned. We do know, however, that there is a certain class of cases wherein suggestive therapeutics is very helpful if one can be really sure that he is on safe ground, and all of us can recall cases in our experience where it has worked beautifully, particularly in cases of hysteria. The hour is late, I know, but if I could speak briefly of three cases from among a number of cases of hysteria coming under my care some time ago demonstrating that form of trouble, I would be glad to do so. One case was that of a young girl of thirteen who had not walked for a year and a half without crutches, being unable to step on the right foot. Taking the crutches away from her, she fell to the floor. On examination I found a well-developed girl, perhaps in advance of her years, no trouble with the bones or joints and no muscular atrophy. Feeling sure it was a case of hysteria I told her that in four or five days she would be walking and her crutches would be thrown away. In less time than that she was running with her girl friends. A man who had been around two years on crutches, a book canvasser, was afflicted with a tremendous pain in the tibia, troubling him almost constantly; was convinced that he was curable and his crutches were thrown aside in a week, and he suffered no more pain. I have had other similar cases. One using crutches for a year and suffering terrific pain in the hip was cured in a few days by suggestion supplemented by electricity. On the other hand, I have tried suggestive therapeutics in cases where I felt reasonably sure of my ground and have failed. A young woman who came to Denver for treatment for pulmonary tuberculosis, in good physical condition, weighing 155 pounds, of a very emotional temperament. Her lung condition improved rapidly, but all at once she began to have extreme epigastric distress, vomiting, etc. After going over the case very carefully I came to the conclusion she was suffering from gastro-enteroptosis of neurotic origin. I told her that there was no doubt, absolutely no doubt, that she could become well. She said: "I believe

you, and I am going to be well." In spite of all that, she continued to lose ground until she weighed less than 100 pounds. This case interested a number of men in Denver, from the medical as well as the surgical standpoint. After a few months with no improvement, although the girl herself believed that she was going to get well, she went home to St. Louis a wreck. It is now eighteen months since her return to St. Louis; she is still bed-ridden; has been under the care of the best neurologists there, and also those who believe in suggestive therapeutics, without result. Today she weighs less than 90 pounds. Now such cases perhaps shock our belief as regards the efficacy of this treatment. I speak of this because I would like to ask Dr. Rogers what percentage of his cases prove to be failures. There is also this to remember, that in these neurotic cases, where everything seems to be going wrong, we must consider the nutrition first of all. I recall one case while practicing in the East, a case which had been treated by the best stomach men in Boston as well as by neurologists, without relief. She came to my city to live, and nothing seemed to be of avail, the woman vomiting constantly. When I called I decided I would give her a square meal of beefsteak and from that time she was well. Suggestive therapeutics did not work in her case, but beefsteak did.

#### DISCUSSION CLOSED.

**Dr. Edmund J. A. Rogers:** It is impossible in the time at our disposal to refer to all of the topics brought up in this interesting, and to me, very gratifying discussion. Of course the discussion has not been confined to surgical cases, while the cases reported by me were all more or less surgical. I could write you a long paper on obstetrical cases and a much longer one on purely nervous cases.

The literature of this subject is daily becoming more and more voluminous. Among the most recent and most instructive books written on the subject is one by Professor Munsterberg, and I wish you would all read it. I am not altogether in sympathy with Munsterberg's habit of thought. He claims a great deal and I think is misleading in much that he says. But the book is a good and clear argument for psycho-therapy. I do not like this term "psycho-therapy," but it is coming to be the accepted term, and I suppose we shall have to use it, as it covers the ground better than any other. Psycho-therapy, he says, is the subject for the study of the general practitioner; that the ordinary practicing physician, the village physician, as he expresses it, is the man who needs it every day in his practice, in every sort of case. Now, he does not say, and no man says who knows anything about the subject, that he must use it to the exclusion of surgery or medicine. It is a department of surgery and medicine, and must be used rationally, and with rational treatment of all kinds; it is not a separate thing, or something opposed to medicine or opposed to surgery; it is a part of the general practice of medicine in every way. Munsterberg says further that a man has no more right to practice medicine without some knowledge of psychology than he has to prac-

tice medicine without a knowledge of physiology. And I am coming to believe this also. You do not know yourself in your ordinary every-day practice to what degree you are using suggestion. You are exercising a mental influence on your patient when you give any dose of medicine, and if you will consider it you will find that you do not know in the majority of cases whether it is the mental attitude which you excite in the giving of that medicine that does the patient the good, or the medicine itself. In the majority of cases it is, I believe, the mental attitude which you excite that is the more powerful agent for good. Psycho-therapy is not a panacea. Dr. Kenney must not be discouraged. You would not be discouraged because you failed in one operation for appendicitis. I see a great many cases such as Dr. Kenney speaks of, which in spite of great willingness to be helped cannot be helped at first. There we come into the deeper psychological conditions, and the so-called psycho-analysis becomes of interest. In the majority of those cases, when carefully investigated, we find there is an underlying opposing idea that exists unconsciously in the mind of the patient. If this can be eradicated the whole attitude of the patient is changed. I see those cases every day, but they have nothing directly to do with surgery.

I am grateful to you for the way in which you have discussed the paper. Dr. Elder's discussion was most intelligent. I wish that I had half a day to answer some of his questions. I shall be glad at any time to take up the subject with him, and with any of you or all of you, and give you the benefit of what little reading and investigation I have made. The psychology of suggestion cannot be explained, as I told Dr. Elder, in a few words. He has read Dubois' book; but Dubois' expression of education of the reason is very misleading. There is something deeper than the education of the reason. Our reasonings are very superficial. We think we are rational beings. We are to a certain extent, but we are influenced by the atmosphere in which we receive an idea, and not altogether by the force of the idea itself. It is the force and environment of the presentation of the idea that influences us; but this also is a very deep question. I wish you would all look over the symposium on psycho-therapeutics before the American Therapeutic Society at New Haven, in May last. You will get a very unsatisfactory and brief synopsis of it in the Journal of the American Medical Association, but it is published almost in its entirety in the Journal of Abnormal Psychology for June and July. One paper alone there, by Dr. Morton Prince, on the psychological principles involved in the treatment by psycho-therapy should be studied by every practitioner. The average man, unless he has read something of psychology, may not grasp it at first, but you can quickly get hold of it. The five principles he gives in the paper are (a) conservation, (b) association (or complex formation), (c) dis-association, (d) automatism, and (e) the influence of the emotions. If you will once grasp the psychological meaning of these five terms you can under-

stand to a very great extent the action of the subject's mind in psycho-therapy.

Of course the great question, as has been brought out in this discussion, is whether the mind can influence bodily conditions. That physical conditions are influenced by the mind I have no question whatever. I have seen all sorts of physical conditions improve under purely mental treatment. To what extent it goes we are only beginning to learn.

In a short paper of mine that was published in June in the A. M. A. Journal, you may see that I go into the theory to some extent. Of course it is all theory yet, as Professor James expresses it in criticising that paper. Of course it must be realized that influences are coming from all directions, which none of us yet fully understand, that there is an imponderable force acting all the time there is no question whatever, but the explanation of the action of that force is getting better understood every day. It is getting upon a thoroughly scientific basis, and every man should try and understand it because he is using it unconsciously all the time.

As to statistics, men who have kept full records of their cases, like the men in Europe who are going into the deep analysis of the question, estimate that with strangers they succeed in from 80 to 85 per cent; while with cases in their own practice, who know them well and have full confidence in them, and so whose attention they can easily catch, they succeed in from 90 to 95 per cent. I cannot give statistics in my own practice because here in the West our practice is so indefinite and so unsettled. I am coming every day, however, to be more and more of the opinion that the percentage that can be helped sooner or later is very large.

The rousing of the expectant attention is the key to the whole thing. The whole idea is of course first to convince the patient that it is possible to get well, and as Dubois—whose book I do not wholly admire because I think it is not scientific—says, the simple conviction of the patient that he will get well is half the cure. And this is certainly true.

I thank you very much for the way in which you have received this paper, and it has given me great pleasure to hear the discussion.

It is reported by cable from Paris that a young scientist, Jean Commandon, has succeeded in making cinematograph records of active microbes. By means of an ultra-microscope with lateral light, photographs are taken at the rate of thirty-two per second and later magnified ten to twenty thousand diameters. Tripanosomes, magnified to the size of eels, are said to be seen gambolling gleefully amid the red cells of the blood. However accurate the statement that the value of these records to science can scarcely be exaggerated, the opportunities of the vaudeville for the amusement of physicians are greatly enhanced. After an evening's relaxation in watching the playful antics of his bacterial enemies the weary doctor may be stimulated to renew his daily crusade with greater zest, possibly with pleasure.



# CHEMIC CORPOREAL CORRELATIONS AS APPLIED TO PRACTICAL MEDICINE.

By EDWARD C. HILL, M. D.,  
Denver, Colo.

The human body is built up, maintained and modified, qualitatively and quantitatively, by the food ingested. While one may not wholly concur with the German proverb, "Man ist was er isst," the effect of the kind of nutriment on temperament can not be gainsaid. Who would deny that the greater dynamic force of the Anglo-Saxon as compared with the Hindu is in part dependent on the beef-eating proclivity of the former?

Pathogenically the character of the diet is of basic importance. Excess of proteins taxes the eliminative organs and causes in particular disease of the liver and kidneys. Excess of fats and sweets leads to lithemia, dyspepsia, gallstones and diabetes. A lack of salts in the daily ration favors rachitic conditions.

A concrete example of the etiologic importance of diet in disease is the malady appendicitis, so common and fatal in most civilized countries, whereas (quoting from the *Denver Medical Times*, January, '06) Dr. S. C. Peoples, a medical missionary in Siam, being the only physician in a state of 850,000 population, had seen but two cases of appendicitis there in twenty-three years. Very recently O. T. Williams has made many microchemic tests of the concretions found in diseased appendixes, and has found them to consist of calcium soaps formed from fats and secreted into the lumen of the tube from the mucosa and submucosa. He concludes that a diet rich in meats and saturated fats is the prime underlying cause of appendicitis, excess of meats favoring a superabundant growth of colon bacilli.

The order and relation of the digestive secretions have a direct bearing on the practice of medicine. The alkaline saliva

is called forth most profusely by acids, as exemplified by the increase of parotid pain in mumps when vinegar is sipped. The acid gastric juice, passing into the duodenum, causes reflex tonic contraction of the pylorus, which is not relaxed until the excess of acidity in the gut is neutralized. Hence hyperchlorhydria is often accompanied by pylorospasm, and this motor condition can be relieved by the free use of olive oil, which acts not so much by its lubricant property, as by inhibiting to a degree the supersecretion of acid.

The acid gastric juice evokes from the lining of the small intestine the non-protein, non-ferment hormone or messenger secretin, which, carried by the blood to the pancreas and liver, calls forth simultaneously into the bowel the bile and pancreatic juice. It is not improbable that much of the good effect derived from the administration of hydrochloric acid has been through this indirect action upon liver and pancreas. Failure of the normal secretion of bile, as in gallstone disease, frequently induces an effort of compensation through hyperchlorhydria, to form secretin from pro-secretin. But the messenger calling in vain for a normal biliary secretion, the mechanism at length tires, and the final gastric complication of cholelithiasis is liable to be deficiency or absence of the normal acid and a consequently atonically patent pylorus, the so-called achylia gastrica.

Foods may be synergistic or antagonistic to each other. Warm milk, for instance, being alkaline or neutral, when taken alone, about an hour before meals, slides quickly through the stomach into the small bowel, where the fat drops in natural emulsion are absorbed directly, and the proteins and lactose undergo digestion by trypsin and invertase. The connective tissue of meat must needs be digested in the stomach, or not at all; if milk is taken with meat, the inhibitory action of the fat of the former upon the

acid gastric secretion tends to delay and impair digestion of the meat. Bread and milk, on the other hand, go well together, since both are digested mainly in the bowel.

The regular use of certain classes of foods develops corresponding types of glands, and digestive disturbances (often wrongly diagnosed as ptomaine poisoning) are frequently set up by sudden changes in diet or too varied a mixture, owing to temporary insufficiency of the glands concerned. To illustrate: A man and his wife both partook freely of popcorn, cucumbers, cantaloupe and fresh home-made ice cream. She was physically frail and sickly; he was robust and sturdy, but of a bilious temperament. The hotch-potch made the husband quite ill, but never fazed his better half.

The fermentation and putrefaction of foods in the gastrointestinal tract depend on the presence of germs. Carbohydrates ferment into gases and acids, not usually of a bad odor. Fats oxidize and ferment, with liberation of fatty acids. Proteins putrefy, through the agency of anerobic saprogenic bacteria, into malodorous alkaline products, particularly ptomaines and such benzene bodies as phenol, skatol and indol, the two latter being shown in the urine by the presence respectively of red and blue indican. The bacteria which set up fermentation of milk (buttermilk) and carbohydrates are antagonistic to putrefactive microorganisms; and this fact is one of the leading advantages of a mixed diet.

Autointoxication from stomach and bowels exhibits the most varied and widespread manifestations and effects. It not only shortens life, but renders what is left of life less worth living. Excess of acids passing into the circulation from the *prima via* causes arteriosclerosis, cutaneous irritation and eruptions, migraine and neuralgias, rickets, and in the matter of ox-

alic acid, oxaluria and perhaps renal calculus. Toxemic products derived from proteins unduly tax the liver and kidneys and cause nervous depression, insomnia, melancholia, and, it is claimed, chlorosis, and even pernicious anemia and general paresis. Fats in excess overwork the liver, causing biliousness; and a superabundance of sweets and starches leads to an accumulation residue of cholesterin, forming gallstones.

The widespread presence of the various enzymes in the tissues of the body as well as in the alimentary tract, and their reversible action, are of fundamental importance in the assimilation of nutriment. Lipase, for example, converts neutral fats in the intestine into fatty acids and glycerin. In the tissues, particularly the glands, on the other hand, these dissociation products being in excess, lipase acts synthetically and fat is deposited. When the mesenteric glands have atrophied from long continued intestinal disorder, as in weakly infants, fat is put on very slowly after the bowel disorder has yielded to proper treatment. During starvation the steapsin acts directly, as during digestion, on the fat deposits of the body, and fatty acids and glycerine diffuse into the blood from the cells.

Heat and energy are derived from the nutritive cell contents by oxidation, through the agency probably of oxidizing ferments (Sajous' adrenoxidase). Urea, water and carbon dioxid are the principal end products of this "internal respiration."

Scientific investigators have reverted to the older view that uric acid and the allied purin bodies represent pathologically suboxidation. The endogenic (nucleinic) uric acid amounts normally to about one-fourth of the whole. The dietary, or exogenic, uric acid can be greatly reduced by avoiding broths, glandular meats and alkaloidal drinks, and by restricting the regimen largely to milk, cereals, bread and fruit.

In ascribing a great variety of symptoms to uric acid and its congeners, however, we are putting the cart before the horse and pushing it back upon that noble animal. Excess of uric acid means generally deficient oxidation, which is the underlying cause of the symptoms present, and which must be relieved in order for a cure to result. For instance, if the defect in oxidation depends on anemic reduction of blood corpuscle oxygen carriers, this condition must be remedied first of all. When, as is so frequent in the higher altitudes, the patient has partial failure of oxidation because of a stagnant circulation resulting from cardiac weakness with primary dilation, cardiants are in order, and it is evident that the common admonition to "uric acid" patients to drink a large amount of water would be out of place here. Still other examples of uricacidemia are due to lack of exercise, as in one of Dr. Melville Black's patients, who was cured of his goutiness and the accompanying optic neuritis by walking up to the City Park and back every day, in conjunction with dietary measures and the use of large doses of salicylates.

The normal alkalinity of the blood (equivalent to 180 mgm. NaHO per 100 gm. blood) rests chiefly on the sodium ions, and is essential to the physiologic oxidation of the nutritive cell contents of the tissues. This alkalinity is increased by fruit, milk and garden vegetables, because of their contained potassium; it is lessened by mineral acids and meats, broths and cereals, owing to their phosphate content. Normal alkalinity tends to become reduced in high altitudes, through the lowered oxygen tension, with relative increase of carbon dioxid. Deficient alkalinity (so-called acidosis) of the blood is often noted in severe cases of diabetes which have been kept on a strict diet of meats and fats, and is here due chiefly to diacetic and oxybutyric acids. The clinical manifestations include

muscular cramps, restlessness and a tendency to convulsions and coma. The same nervous accompaniments of acetonuria and diaceturia are not infrequently observed in infants fed too freely upon meats and fats.

Treatment consists in the administration of large amounts of sodium bicarbonate by the rectum, together with carbohydrate foods in abundance, such as gruels, toast, rice and corn starch preparations. I am inclined to believe that the peculiar cyclic vomiting which some children manifest is of acidotic origin. In a minor degree, nervous irritability and slight aches and pains occur because of slight subalkalinity, and are readily relieved by treatment directed to the cause, sodium citrate being a good remedy here.

The normal slight acidity of the urine depends chiefly on its content of sodium dihydrogen phosphate, which is derived from the alkaline disodium hydrogen phosphate of the blood (in part by reaction with uric acid). When this normal acidity is lowered nearly or quite to nil, the earthy phosphates of calcium and magnesium, which require an acid reaction to hold them in solution, are precipitated. "Phosphaturia" signifies, therefore, not an excess of earthy phosphates necessarily, but diminished acidity of the urine. The logical treatment of the condition consists in a diet rich in meats and cereals, along with the administration of the acid sodium phosphate, 30 grains four times a day.

By the action of urea-hydrolyzing germs without or within the bladder, ammonium carbonate is formed, and this, by reaction with water, liberates ammonia gas. Mucus and pus accompany and favor such decomposition. Volatile or ammoniacal alkalinity of the freshly passed urine is best prevented by the administration of sodium benzoate (one dram daily) or hexamethylenamin (one-half dram daily). The latter drug, however, does not lib-

erate its formaldehyd in urine which has already become alkaline. Vesical calculi nearly always have a shell of earthy and triple phosphates, because of the alkaline fermentation accompanying the resulting cystitis. Unduly high urinary acidity (from meats and broths) is very irritating to the granular patches of chronic urethritis.

By his great work in comprehensively elucidating the autoprotective resources of the body and the laws through which they are influenced by drugs, Sajous has laid the foundation of a really scientific therapeutics, which I believe is borne out by the successful results of its application in one's daily practice. According to his hypothesis of the functions of the thyroid-adrenal-pituitary triad, the pituitary gland is a double sensory test organ and sympathetic (vasomotor) center; the thyroids and parathyroids secrete opsonin, which sensitizes tissues, bacteria and waste products for oxidation; the adrenals furnish albuminous hemoglobin (Ehrlich's amboceptor), which takes up oxygen in the lungs and carries it to the cells of all tissues; and the trypsin (Ehrlich's complement) of the leucocytes kills and digests bacteria. The systemic action of drugs, briefly stated, is by stimulation or depression of the adrenothyroid (pituitary) center.

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In a recent address before Cornell students on Social Problems, Prof. Jeremiah Jenks said: "According to some of the best authorities, in a country like the United States, thirteen days are lost through sickness in each year, on the average, by every member of the population, resulting in a monetary loss, doubtless, of more than a billion dollars a year. Minor ailments which do not result in the calling of a physician cost not less than \$250,000,000 a year, and that by proper care nine-tenths of this loss could be saved."

## REMOVAL OF SKIN FROM THE ABDOMEN DURING LAPAROTOMY, AS A SOURCE OF MATERIAL FOR GRAFTING.

BY F. GREGORY CONNELL, M. D.  
Oshkosh, Wisconsin.

*(Read, by invitation, at the Sixth Annual Meeting of the American Association of Railway Surgeons. Chicago, October 21, 1909.)*

Most individuals object to furnishing skin for grafting either on their own, or any other person's body, and this trait of human nature has led the surgeon to utilize any possible source of material that calls for little or no pain or sacrifice.

A recent case in which an extensive granulating surface of the face and scalp was covered with Thiersch grafts, cut from a redundant piece of abdominal skin, that was discarded during the course of an operation for ventral hernia, subsequently rescued and kept in normal salt solution until it could be used, leads to the suggestion that suitable skin for grafting purposes might easily be obtained during the course of the majority of laparotomies.

A longitudinal strip of skin and superficial fascia, in length equal to the abdominal incision, and in width from one-half to one inch, depending upon the amount of subcutaneous fat, and the redundancy of the skin, might be removed from either edge of the wound and cause no interference with the abdominal union, nor of the convalescence or convenience of the donor.

This procedure has in all probability been employed many times in the past, but I have never observed it in any of the various clinics that I have visited, nor have I read of it in the literature. At least it is not generally considered by

surgeons in searching for contributions of skin when grafting is necessary.

It therefore seems that time might be saved, worry, discomfort and pain avoided by calling attention to this simple maneuver, before an audience, such as this, composed of those who deal largely with traumatic surgery, in the course of which grafting is so often necessary for prompt and satisfactory recovery.

Skin grafts may be divided into those that call for a sacrifice, on the part of one or more friends or relatives, that may include pain, discomfort, inconvenience, or danger to a small degree; and the second division including those grafts that may be secured without causing any individual to make such a sacrifice.

The sacrificial grafts may be either auto- or iso-dermic, the former being derived from the same individual upon whom they are to be engrafted. They are practicable only in cases in which there is but a small area to be covered. Where large surfaces of the body are devoid of skin one is rarely warranted in cutting grafts from the patient, nor is their vitality such as to provide suitable material.

Iso-dermic grafts are derived from members of the same species, and are the most commonly employed type of graft, they are usually removed from the thigh, arm, or other hairless portion of the body; if a large area is to be covered, a number of people must be willing to contribute, each a few fragments of epidermis.

The inherent reluctance of the average human being to part with any portion of his or her anatomy seems to be intensified when it comes to the donation of a small portion of skin, so that the surgeon rarely feels justified in attempting to secure such grafts unless the defect is extensive and the necessity urgent. And this has resulted in the use of grafts that call for

no sacrifice, such as the employment of the lower animals, the zoo-dermic graft; and iso-dermic from what might be called the "waste products" of surgery.

Grafts derived from the lower animals, such as the dog, cat, rabbit, frog, pig and others, have never been entirely satisfactory. Isolated instances in which their use has been followed by a more or less satisfactory outcome have occasionally been reported, but when taken as a whole they must be considered as unsatisfactory.

In case the grafts are successful takes, they are said to be absorbed in time.

My only personal experience with such grafting was an instance in which Thiersch grafts were taken from the back of a suckling pig and planted on a granulating surface of the forearm, about half of these were successful, and made very acceptable skin.

It may be stated, in passing, that grafts from white to colored individuals and vice versa, are very satisfactory; pigment gradually disappearing when transplanted to whites, and being slowly deposited in white grafts when planted on colored individuals.

The utilization of what might be called surgical waste products is best exemplified by the use of skin of limbs amputated for trauma, this had better be done immediately after amputation, but if delay is necessary, successful grafting may be done after the limb has been kept on ice for 12, 24 or even 36 hours. But fortunately for humanity, even if unfortunate for the individual in need of skin, amputations are becoming comparatively uncommon, so much so that they offer a very uncertain source of material. In my railroad experience it was practically a routine practice to utilize the skin of amputated limbs for grafting when cases calling for it were in the hospital.

The integument of the prepuce removed in the operation of circumcision may be

utilized for grafting, as may the tissue removed in the amputation of the scrotum. I have utilized both these sources of supply, but with unsatisfactory results, owing to the looseness, the folded and puckered character of the skin which render difficult the cutting of proper grafts. Reverdin grafts are the most suitable, that may be secured from such material.

In one instance I made the rather unique experiment of utilizing the sac of a hernia as a covering for a denuded finger, hoping that the endothelial cells, of mesoblastic origin, might possibly under the change of environment, alter their characteristics and assume those of the epiblastic epithelium. But such tissue is not suitable for Thiersch grafts and the Wolff graft used in this instance failed.

After this very brief consideration of the more usual sources of material for grafts, it will be seen that the recognized and accepted method of dealing with large defects, that is by the securing of small contributions from many individuals, has been followed by satisfactory results, and will continue to be so. It is in cases where, for some reason, the usual resources are not available, that the suggestion embodied in this communication may be of value.

The skin that may be removed from the abdomen during laparotomy, is eminently suited for grafting, either by the method of Wolff or of Thiersch, on to the face or any other portion of the body. The chief contra-indication would be the presence of any constitutional disease, such as tuberculosis, syphilis or of malignancy. Only clean laparotomies would be suitable, the finding of any pathological condition during the laparotomy that might cause the extension of the infection to the individual to receive the skin would of course serve as a contra-indication.

Consent to furnish the skin, by the patient about to undergo laparotomy will

usually be given after an explanation of the facts, and should always be secured, otherwise misunderstandings with more or less annoying consequences might arise. In case the donee be affluent and the donor the opposite financial recompense might not be unreasonable.

The preparation of the surface to be grafted will differ in no way from such preparation when the skin is to be derived from the more usual sources in the more usual manner.

The preparation of the skin that is to be transplanted, will of necessity be accomplished in the preparation for the laparotomy. Whether the grafts are to be either Wolff or Thiersch, the removal of the skin from the abdomen is the same in either event.

The superficial fascia and the subcutaneous fat should be removed with the skin, and can be easily accomplished by simply making an incision through these structures parallel with the laparotomy incision.

This strip of tissue from which the skin is to be cut, may be removed at the outset of the operation and handed to an assistant who may do the grafting. Or the tissue may remain in place until the operation is completed, all but the suturing of the skin and superficial fascia, it may be kept in hot normal salt solution until the closure is completed, or better, the final suturing may be done by an assistant while the transplanting is carried out at once.

If the Wolff graft is desired it will be prepared in the usual manner, if Thiersch's method is thought to be more suitable, traction will be made at each corner of the removed strip of skin, by means of forceps that grasp only the subcutaneous tissue. Suitable grafts may then be cut from this stretched skin with much more ease and satisfaction than is possible under the usual conditions with



the skin in situ; because of the possibility of making counter pressure from beneath, with the fingers of the opposite hand as the razor is at work.

The removal and implantation of the grafts with the subsequent dressing and after-treatment will, of course, differ in no way from the usual routine.

#### UNUSUAL LOCATIONS OF SUPPURATION HAVING THE APPENDIX AS ORIGIN.

By C. C. Allison, M. D., Omaha.

Suppuration having origin in an infected appendix may assume locations so varied that the clinical aspect is misleading, and the reasons for so wide a distribution of such abscesses, may be profitably studied.

Experience has taught us that for uncommon locations of pus, having the appendix as origin, the following areas should be considered the most suspicious ones.

(a) The supra-iliac space somewhat behind the crest.

(b) Anterior surface of the thigh, internal to the sartorius.

(c) Plural cavity about the post axillary line.

(d) External border of the left rectus, near its insertion.

The reason for such wide variations becomes apparent when we consider the variable length of the appendix, its radial direction from the cæcum, its peritoneal relations, and the point of leakage. When we consider the number of appendices that are chiefly, or in part, retro-peritoneal in location; clinically, we would expect a greater proportion showing retro-peritoneal burrowing, either peri-nephritic, crural or sub-phrenic; and when a long appendix is located transversely and the infected zone being distal, left sided abscess is accounted for.

Assuming that the drainage of the abscess is the most urgent indication and that this surgical measure is all that the patient can reasonably bear at the time, it is well to remember that if an infected appendix is the cause it may continue to leak, and a persistent sinus remain.

A further reason for protracted suppuration, than actual appendiceal sinus is the slow subsidence of post peritoneal lymphangitis with poor drainage.

Three cases have been encountered in which a persistent lumbar sinus led us to suspect the appendix.

A silver probe introduced into the bottom of the sinus was found to invade the appendix through the ancient rupture.

Two cases of iliac and crural phlegmon, drained below Poupart's ligament, developed a persistent sinus until removal of the respective appendices, which demonstrated in each case, that the infection had burrowed through the iliac fascia, from an appendix abnormally located.

## Progress of Medicine

### INTERNAL MEDICINE.

Edited by

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Boulder, Colo.

#### RESULTS OF TUBERCULIN TESTS IN MONKEYS.

White and Fox (*Arch. of Inter. Med.*, Dec., 1909), while serving as pathologists to the zoological gardens of Philadelphia made a most careful study of this question, and their findings are valuable as indicating what may be done by isolation of infected animals. Previous to their work, the average length of life of the monkeys on exhibition was from 18 to 21 months, and the majority of the deaths were due to tuberculosis. They began their work in 1905 and have continued it to the present time. They first learned by tedious experiment that the normal monkey's temperature averages at its highest daily point three or four degrees higher than the human, and that the height is reached about 3:00 p. m. There is also a very constant drop to about 99° (Fahrenheit) at about 3:00 a. m. After making temperature observations for at least 10 days, the monkey is given from one to three milligrams of tuberculin. It has been found that this relatively large dose will have no effect upon non-tuberculous animals, but will often kill the tuberculous ones. One hundred and twenty-eight monkeys were tested and 37 per cent reacted positively. Of those so reacting, all were proved to be tuberculous. While of those that were passed as non-tuberculous, ten afterward were proven to be tuberculous. These, however, were during the first year's work, and it was found that the error was due, in all probability, to the fact that temperatures were at first only taken for 24 hours after the tests were given, and those that gave delayed reactions, es-

caped. This error was then corrected and during the remaining three years and two months, no animal that has passed the test has been proven to be tuberculous. All monkeys which are admitted are kept in quarantine until thoroughly tested, and if tuberculous or doubtful, are destroyed.

The result has been that the average length of life has been almost trebled. They were unable to trace any relation between the severity of the reaction and the progress of the disease—some of the severest reactions being given by monkeys that were proven to have only slight lesions.

O. M. G.

#### THE DEVELOPMENT OF CANCER FROM GASTRIC ULCER.

Wilson and MacCarty (*Amer. Jour. Med. Sci.*, Dec., 1909) report the result of their excellent studies on 213 specimens removed by the Mayo brothers, at operation and 5 at autopsy immediately after death. Of the 218 cases, 55 were simple ulcer with no suspicion of carcinoma, two were sarcomas, two adenomas, one diverticulum, and five were of doubtful nature. Of the 153 cases remaining, which were undoubted carcinoma, 109 (71 per cent) presented sufficient gross and microscopic evidence of previous ulcer to warrant placing them in the group labeled "Carcinoma developing on preceding ulcer." Seven per cent showed considerable but inconclusive evidence of having developed from ulcer. In 22 per cent there was relatively small or no pathological evidence of precedent ulcer. They give detailed reports of a large number of the cases. Also a large number of excellent plates showing the malignant development upon the site of the ulcer. From this report it seems to be quite conclusive that carcinoma of the pyloric region of the stomach is almost, as a rule, preceded by ulcer. Of course, when a patient dies of gastric cancer, the neoplasm has usually obliterated all gross and

microscopic evidence of previous ulcer. Such indications will certainly tend to modify our conception of the treatment of gastric ulcer.

O. M. G.

#### NORMAL AUSCULTATORY DIFFERENCES BETWEEN THE SIDES OF THE CHEST.

Richard C. Cabot (*Amer. Jour. Med. Sci.*, Dec., 1909), after noting the importance of early pulmonary diagnosis and calling attention to the well-known difference between the apices, details his findings as to the differences in the bases posteriorly. In a series of 250 healthy cases recently examined he found in 67 per cent of them the following difference upon auscultation: In the left base the breath sounds were notably louder and harsher than those in the right, and in the majority of these cases there was also the quality described by the Germans as "rough." It seemed to be independent of age, sex, time of the day, or amount of food in the stomach, yet, for unknown reasons, it was sometimes found to be present in the morning and absent in the evening. He suggests the possibility of it being due to the lower position of the diaphragm on the right or the impingement of the heart upon the left lung, but says that these are unverifiable suspicions. No change is found on percussion or palpation.

He also gives the following as the differences found between the two sides in the lateral recumbent position: The lower side gives increased tactile fremitus, a combination of dullness and tympanitic quality and an increase in intensity of the spoken and whispered voice, with a slight prolongation of expiration and a raising of its pitch. In other words one gets the signs which might indicate slight condensation of the lung, such as one gets above a pleuritic effusion.

O. M. G.

Membership in your local society entitles you to membership in the State Medical Society and the American Medical Association.

## THE ACUTE SPINAL PARALYSIS OF CHILDREN.

In many of the cities of Germany acute anterior poliomyelitis (Osler) is epidemic, and has been the last twelve months. During the first nine months of the year 436 cases with 66 deaths were reported from Arnsberg, and a detailed study of more than 100 cases (nine autopsies) has been made by Krause and his assistants. He proposes as a name "The Acute Paralysis of Children" (*Die Akute Kinderlähmung*) for the disease, and from its epidemic occurrence, transmission by "carriers," etc., concludes that it is an acute, infectious disease, essentially a disease of childhood (two to four years), but adults are not entirely exempt; that epidemics are more likely to occur during warm weather than cold; that the mode of infection is not known; neither the specific organism. In certain epidemics an unusual mortality among fowls has been noted and the disease has been transmitted to animals (rabbits, apes).

At autopsy the uniform microscopic changes include slight lepto-meningitis, catarrhal changes in the small and large intestines, swelling of the spleen and mesenteric glands and microscopically certain changes in the cerebrum and cord, and there may be metastatic foci of inflammation with edematous swelling in the nerve centers and disseminated myelitis and encephalitis. Infection probably occurs by way of the gastrointestinal tract. In the Hagen epidemic, in 90 per cent of the cases, the gastrointestinal symptoms preceded the paralysis by several days—profuse diarrhea, sometimes obstipation, high fever and profuse sweating. The paralysis usually begins with the muscles of the neck, and extends to those of the abdomen, back and extremities. In grave cases the respiratory muscles are involved and there is more or less disturbance of respiration. The fever and sweating continue to the second or third day of the paralysis; there

is marked tenderness on pressure over the vertebrae, and on the legs; the sensorium is clear, the tendon reflexes absent, but the skin reflexes (plantar abdominal, cremaster) are rarely absent. The general paralysis may disappear within a few days to three weeks to leave a permanent paralysis of one arm, one or both legs, but in one of Krause's patients there was complete recovery. It is believed that the beginning of the paralysis coincides with the entrance of the virus into the circulation. During an epidemic, many adults suffer from profuse diarrhea; in the present epidemic, seven adult members of one family.

Krause advises hospital treatment and disinfection of the home. For the gastrointestinal symptoms Calomel and castor oil, careful dieting, hot, dry applications to the abdomen, lumbar puncture; later, galvanism, hydrotherapy, massage, active movements.—(*Deutsche Medizinische Wochenschrift*, No. 42, 1909.)

W. J. B.

## SURGERY.

Edited by

Haskell M. Cohen, M. D.,  
Denver, Colo.

F. W. Bancroft, M. D.,  
Denver, Colo.

## FIBROID DEGENERATION OF THE APPENDIX

Robert T. Morris (*Amer. Jour. of Surg.* Oct., 1909), believes that we can differentiate four distinct kinds of appendicitis. (1)—*Acute infective appendicitis*, due to intrinsic infection. (2)—*Appendicitis due to extrinsic infection*. (Due to invasion from surrounding tissues.) (3)—*Congestive type of appendicitis*. (Commonly follows loose kidney.) (4)—*Fibroid degeneration of the appendix*. This form is the most common, is very gradual in its development and is often overlooked. The appendix gradually undergoes obliteration and the various structures are replaced by connect-

ive tissue and so that by contraction of this connective tissue, the nerve filaments are irritated. Most cases occur in patients of middle age. The local symptoms are, discomfort in the region of the appendix, and the patient is inclined to press the hand over the region of the appendix or press against the edge of a chair or table for relief. Tenderness on pressure may or may not be present. The most important symptom is commonly designated intestinal indigestion. In making the diagnosis, we must add to the above symptoms a tendency of the cecum and ascending colon to remain persistently more distended with gas, than other parts of the bowel, and a hyper-sensitiveness of the right group of lumbar ganglia. If deep pressure is made upon the abdominal wall, about one and one half inches to the right of the umbilicus and more tenderness is found here than over any other group of sympathetic ganglia, it is fair evidence that we are dealing with a case of fibroid degeneration of the appendix. If medical treatment fails to relieve, then operative interference is advised, not because the appendix may become acutely inflamed, but in order that the patient may be relieved of intestinal indigestion and of the train of symptoms that goes with it.

H. C.

#### THE TREATMENT OF GONORRHEAL ARTHRITIS WITH VACCINES MADE FROM THE GONOCOCCUS.

H. F. Hartwell (*Annals of Surgery*, November, 1909) reviews fifty-one cases treated by gonococcal vaccines.

The conclusions derived were that it would seem that gonococcus vaccines are a valuable therapeutic agent in gonorrheal arthritis, in all stages of the inflammation except where ankylosis has occurred. They do not, however, seem to be able to prevent extension to fresh joints in early cases, and certainly do not pro-

duce enough lasting immunity to prevent recurrence of arthritis. Autogenous vaccines seem to be more efficient than stock, thus corresponding to the known specificity of biological substances.

F. W. B.

#### LIGATION OF THE THYROID VESSELS IN CERTAIN CASES OF HYPERTHYROIDISM.

Charles H. Mayo (*Annals of Surgery*, Dec., 1909) classifies surgical treatment of exophthalmic goitre as follows:

1. Operation upon the gland itself.
2. By reduction of the blood supply from vessel ligation.
3. Operations upon distant organs, especially the pelvis in women.
4. Extirpation of the cervical sympathetic ganglions.
5. The injection of cytolytic serums.

The indications for ligation of the vessels are:

First: Those suffering from mild hyperthyroidism and those in whom the diagnosis is made early. In cases which are not severe enough to warrant thyroidecomy, the ligation will produce a cure in a few weeks.

Second: Those cases of acute severe exophthalmic goitres, and in the chronic and very sick patients, who, having exhausted all forms of treatment, are suffering from various secondary symptoms—degeneration of the heart, abdominal viscera, etc.

Cases of hyperthyroidism suffering from oedema, ascites, dilation of the heart, gastric, crisis of vomiting are too sick to risk an immediate extirpation. The author thinks these cases are markedly benefited by ligation and later they improve under rest, hygiene and X-ray, or they are in better condition to stand extirpation. There is much greater safety in ligation than in extirpation.

F. W. B.

A "Society of Medical History" has recently organized in Chicago with Dr. T. N. Danforth as president. Dr. Ludwig Hektoen is on its council.



## GYNECOLOGY AND OBSTETRICS.

Edited by  
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## EXTRAMEMBRANEOUS PREGNANCY.

Tautzscher (*Zentralblatt f. Gynakologie*, 1908, No. 27) describes hydrorrhea gravidarum and refers to twenty similar observations reported in the last ten years in the German literature.

There are two forms—hydrorrhea decidualis and hydrorrhea amnialis; both are more common in multipara and are caused by endometritis gravidarum. In the former there is a considerable quantity of clear fluid free from blood formed between the decidua vera and decidua reflexa which is expelled at intervals through the cervix. The condition has no effect upon the foetus which is expelled at term.

In the latter condition—hydrorrhea amnialis—the endometritis is more severe and there is a rupture of the membranes and the child is expelled, partially or entirely, into the uterine cavity and continues to live for a longer or shorter time. Usually there is an early abortion. Those children who are viable are apt to have stiff extremities and lack of development by reason of the confined space they have been made to grow in. On account of the lack of nourishment the placenta is very apt to be circumvallate.

The discharge of blood and fluid, occurring once or periodically is the chief clinical feature in making the diagnosis.

In Tautzscher's case, hydrorrhea amnialis, the patient six months pregnant bled for three days, in the succeeding month, two more hemorrhages occurred and shortly afterwards drenched the bed with blood. This loss of blood had no effect on her pulse. The foetal heart could not be heard. Two days later there was another hemorrhage and two months

after the first hemorrhage set in, labor came on and a still born child was extracted by the breech followed by a discharge of dark blood. An hour afterwards the placenta was delivered and was completely anaemic. In the membranes was the aperture through which the child had escaped and a portion of the membranes was attached to the cord.

Judging from the smallness of the opening in the placenta and the size of the child, the rupture and expelling of the child into the uterine cavity must have taken place early, probably a month before and the pregnancy had been extra-membraneous.

C. B. I.

## OVARIAN CYSTS AND MENSTRUATION.

Endes (*Central Blatt f. Gynecol.*, Feb. 13, 1909) writes that a simple unilateral ovarian cyst does not in any way influence menstruation, nor does a malignant unilateral ovarian cyst cause amenorrhoea, though occasionally it may be the cause of pain and a change in the amount of flow. In a woman past the menopause a unilateral cyst can cause a flow which will simulate the reappearance of menses.

Bilateral cysts can at times bring about amenorrhoea, but only in the evolution of cysts that have caused complete destruction of ovarian tissue or have become twisted, suppurated or become the seat of peritoneal inflammation.

C. B. I.

## MENSTRUATION DURING LACTATION.

Sundin (*Central Blatt. f. Gynakologie*, 1909, No. 7) has found in a series of 400 recent cases of nursing women, 335 of which raised their babies on the breast alone, that 55 per cent of these menstruated during lactation; 38.5 per cent had amenorrhoea and 20 per cent were irregular; 38.1 per cent menstruated between the first and second months.

Of those women who fed their babies on a mixed diet or changed to artificial

feeding, there were 57 cases. In 13 of these menstruation began when the change of diet was made, with 17 menstruations came on six weeks later, and 10 women menstruated at the close of lactation.

Sundin states that the factors active in the return of the menstrual flow are not known, but that the lacteal function has not the importance once attributed to it.

C. B. I.

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#### OPHTHALMOLOGY.

Edited by

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#### THE ETIOLOGY OF TRACHOMA.

Professor Greef of Berlin read a paper on this subject at the recent meeting of the British Medical Association (*British Medical Journal*, Oct 2, 1909). He believes that in the trachoma microbe discovered by Prowazek and himself the long sought after organism has been found. He thinks they are not bacteria but are more closely allied to protozoa. They are much more minute than the smallest known cocci. They stain intensely with Giemsa stain diluted with analine and not at all with Gram and they are sometimes surrounded with a distinct zone. With the highest power they were seen to be not quite round but slightly oval and grouped in pairs. If intracellular they lay close to the nucleus. They were found in the epithelial cells in the discharges, and in pressed out follicles. He first called them double bodies but subsequently discarded this name for "trachoma bodies."

E. W. S.

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#### THE RESULTS OF CATARACT EXTRACTION.

Some of the results of cataract extraction are so brilliant that we are apt to adopt a too optimistic attitude when discussing the probabilities of good vision

with patients who are about to submit to the operation. Golesecano contributes an article to the *Receuil D'Ophthalmologie* for June, 1909, which should lead us to adopt a more cautious attitude. The author analyses the results of his last 100 extractions, with the following final results: Perfect vision (6-6), not one case; 6-9, 3 cases; 6-12, 13 cases; 6-18, 11 cases; 6-24, 11 cases; 6-30, 5 cases; 6-36, 11 cases; 6-48, 14 cases; 6-60, 11 cases; less than 6-60, 9 cases, 4 of whom only possessed perception of light in the eye operated upon. If we regard any visual acuity over 6-60 as a good result—a low enough estimate—we get a percentage of about 60 per cent of good results. These statistics are not nearly so good as those published from other clinics—as for example, Basle—but even the best figures teach that the final result of a cataract extraction performed under the very best conditions is not always a good one, and is often very bad. Even when the first result is almost perfect, the vision may deteriorate later from choroiditis or optic nerve atrophy.

E. W. S.

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#### NEUROLOGY.

Edited by

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#### RABIES.

Rabies like many other specific infectious diseases, particularly tetanus and cerebro-spinal meningitis, has a predilection for nervous tissue and like the latter disease especially, attacks the central nervous system. Although the specific organism, the *neurorhynchus hydrophobiae* is found in tissue other than nervous, the principal seat of growth is in the brain, to which fact no doubt is due the rapidity with which the patient succumbs.

Since our veterinary brothers so often

disagree in the diagnosis of the clinical picture presented by the dog, it is all the more important that the profession should have a ready means of pathological diagnosis. Since the cure of the disease lies in its prevention and we have at hand a reliable preventive measure, the possibility of being absolutely certain as to the presence or absence of rabies in the dog is of paramount importance.

Since the announcement by Negri in 1903 of the discovery of certain "bodies" in the nerve cells of rabid animals, and the abundant corroboration which followed the announcement of this discovery, all previous theories as to the etiology have been practically abandoned. He described these "bodies" as consisting of a fundamental structure, homogeneous, non-granular and hyaline in appearance resembling coagulated albumen. Within them are clear, shining areas which at first sight appear to be vacuoles, but which, under higher powers, show one or more points of deeper color. They are quite resistant to external agencies, remain unchanged for a long time by putrefaction and desiccation and may be preserved in glycerine for eighty days without alteration.

Further impetus was given to the study of these "bodies" by the work of A. W. Williams, who, while studying smears from vaccinia and variola stained by Giemsa's method, found that it brought out the "bodies" very clearly and characteristically. The conclusions drawn from this most excellent investigation (*The Journal of Infectious Diseases*, Vol. III, No. 3, May, 1906) are briefly summarized as follows:

The smear method is superior to any other method so far published and for the following reasons: That it is simpler, shorter, and less expensive; the Negri bodies appear much more distinct, the minute structure can be more clearly demonstrated and characteristic staining reac-

tions are brought out; that the Negri bodies are specific to hydrophobia; numerous bodies are found in the "fixed virus;" and that these bodies are organisms belonging to the class protozoa.

Calkins (Protozoölogy, 1909) carries the classification still further, but leaves the mode of division and budding and many other questions still in dispute.

The original technique has been modified in many ways and has been largely replaced by the examination of fresh smears, which method has proved very satisfactory. It has the great advantage of giving an immediate diagnosis since the examination may be completed in a half an hour or less. It is described by Gorham as follows: "\* \* \* \* Pieces 3 to 4 mm. square are taken from the cerebral cortex in the region of the crucial sulcus, the cortex of the cerebellum, and the hippocampus major. These are placed on a well-cleaned slide and crushed under a cover-glass until the matter spreads to the edge of the cover, which is then drawn slowly and evenly the length of the slide, leaving a uniform film of brain matter. The slide is then immersed in wood alcohol for one to three minutes and dried in the air. The stain is made by adding 2 drops of a saturated alcoholic solution of rose aniline violet, and 16 drops of a one-half saturated aqueous solution of methylene blue, to 18 cc. of distilled water. Flood the slide with this stain and heat gently until steam rises, wash in water and dry. The Negri bodies appear as pink, crimson or magenta inclusions in the blue nerve cells."

Bertarelli states that in more than one thousand examinations the Negri bodies were never found in animals free from rabies, and on the other hand, were found in all infected animals with three exceptions. It is highly important that the dog be not killed until the disease is fully developed.

The disease in human beings is to be diagnosed from tetanus, hysteria, acute

mania and lyssophobia, briefly as follows:

From tetanus by a longer period of incubation, absence of trismus and "risus sardonicus" and complete absence of spasm during the interval. The most characteristic symptom of hydrophobia, the respiratory spasm excited by attempts to swallow water, is absent in tetanus.

From hysteria, especially in persons who have been bitten by a dog, by the general convulsions, with constant barking and biting in hysteria, and the absence of the respiratory spasm of rabies, and especially by a careful review of the case.

From mania by a careful review of the case. The rapid course of hydrophobia soon clears the diagnosis.

From lyssophobia, occurring in those who have a fear of the disease by the short incubation period, which is shorter than ever occurs in the true disease. Spasms of the throat on swallowing may cause dread of water, but the respiratory spasm is absent, and death as a result has never been reported.

E. W. L.

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#### DERMATOLOGY.

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##### TUBERCULIN IN THE TREATMENT OF TUBERCULOSIS OF THE SKIN.

The use of tuberculin in the treatment of cutaneous tuberculosis shared the early disrepute into which this method fell as a result of the disappointing and unfavorable outcome of its application during the experimental stages. Without doubt these unfavorable results were due to the improper selection of cases and faulty technic. More recently the method has been revived, particularly since the studies of Wright have given a basis for its indications and a means of regulation of dosage.

The results in the non-ulcerated lupus are as yet disappointing except in connection with other means of treatment, such as Finsen light. In all ulcerating

forms, however, very satisfactory results follow its careful use.

G. T. Western (*British Journal of Dermatology*, Nov., 1909), reports a series of cases including four of scrofuloderma and one of lupus treated by injections of minimal doses of tuberculin at intervals of six to ten days. The opsonic index was taken at the beginning of treatment and again if improvement ceased, but not regularly. The tuberculin used was T. R. and B. E., both from human strains of bacilli and apparently equally effective. The dosage in these cases varied from .00005 mgrm. to .02 mgrm. with an occasional staphylococcic injection to combat the mixed infection.

Local treatment consisted of the application on lint of a solution containing 3-5 per cent sodium chloride and 1 per cent sodium citrate applied warm under gutta percha tissue and changed frequently. When healing neared completion the saline dressing was replaced by eucalyptus ointment.

The time required for complete healing varied from two months to eleven months for the scrofuloderma cases and was about three years for the lupus case which was very extensive, involving the face and both arms.

A. J. M.

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An invitation has been issued to all officers and members of State Medical Licensing Boards, officers of State Medical Associations, members of the National Legislative Council, university presidents, college professors and others interested in medical education and medical legislation to attend a special conference of the Committee on Medical Education and Legislation of the A. M. A. to be held at the Congress Hotel (formerly the Auditorium Annex), Chicago, Monday, Tuesday and Wednesday, February 28, March 1 and 2, 1910, the session to begin at 10 o'clock Monday morning. The subjects to be considered will include the present status of the medical colleges in the United States, practical tests in state licensing examinations, the essentials of a model practice act, a national health bureau, vital statistics, pure food and drugs, and other live topics.



## Constituent Societies

### BOULDER COUNTY.

The Boulder County Medical Society met Dec. 2, 1909, Vice-President Dr. Lucy Wood presiding. Present: Drs. Queal, Geo. Cattermole, C. Cattermole, Campbell, Rodes, Reed, Gillaspie, Burnett, Howard and Clay Giffin.

Dr. Wood gave the paper of the evening, which covered the outline of the post-graduate work on "The Exanthemata."

The society heartily endorsed the action of the mayor of Boulder in his order requiring that all dogs be muzzled.

E. B. QUEAL,  
Secretary Pro Tem.

The regular post-graduate work of the Boulder County Medical Society was dispensed with on December 9th.

Dr. Geo. Cattermole, having just returned from New Orleans, occupied the evening by telling the society of his work in New Orleans. He described the medical department of Tulane, University of Louisiana, and the Charity hospital where he did his work. He described his experiences with pellegra, hook worm disease, aestivo-autumnal fever, and various intestinal infections, found in tropical countries. He illustrated his talk by pictures and microscopical slides.

Eighteen members were present and all expressed great satisfaction at the information derived from Dr. Cattermole's talk.

The Boulder County Medical Society held its regular post-graduate meeting at the dispensary, Thursday, Dec. 16th.

The subject being "Small-pox and Chicken-pox," as outlined in the course of study laid out by the A. M. A. Although a fierce blizzard was raging, an appreciative attendance was present to listen to Dr. Jacob Campbell, the speaker of the evening. He discussed the subject extensively, both from a theoretical standpoint and from practical experience as health officer of Boulder. All present joined in the discussion.

W. H. JOLLEY,  
Secretary.

### DENVER COUNTY.

A regular meeting of the Medical Society of the City and County of Denver was held Dec. 7, 1909, the vice-president, Dr. C. B. Van Zant, in the chair. "The Treatment of Burns" was the title of a paper read by Dr. C. E. Tennant. Burns may be caused by dry heat, friction, electricity, certain forms of radiant energy, chemicals, and hot fluids, the term "scald" being applied to the latter, each being classed in three stages, according to the severity. Burns produce shock, toxemia, or sepsis. Where vapors are inhaled, oedema of the glottis and lungs, or pneumonia may occur, and the possibility of the latter must be borne in mind after extensive burns on any portion of the body.

Dr. Tennant spoke at length upon the open dry air treatment of burns, for burns when first received are naturally sterile, and if reasonable precautions are taken, they may remain so,

thereby lessening the degree of toxemia and tissue destruction. Should the burned surface require washing, a solution of 5 to 10 per cent of liquor cresols comp. is used. While the first effect of this solution is to increase the pain, it is but an instant before the anesthetizing effect of the cresol upon the exposed terminal nerves is apparent, and the pain is gone. When possible it is much better to clean all burns dry, using the dry sponge and tissue forceps. Blebs should be opened as they form. Necrosing surface tissue must be removed.

The paper was discussed by Drs. Oettinger, Garwood, Wetherill and Tennant.

Dr. Lorenzo B. Lockard read a paper entitled, "Amputation of the Epiglottis in Laryngeal Tuberculosis." The most fatal, as well as the most painful localization of tuberculosis of the larynx, is the epiglottidean. Laryngeal tuberculosis is present in 35 per cent of all consumptives and in 2,270 cases of laryngeal involvement the epiglottis was involved in 618 or 27.22 per cent.

In practically every case this is a late manifestation, hence the high mortality, approximately 95 per cent. Medicinal treatment is not effective either as to cure or relief of the terrible pain.

Complete amputation relieves the pain in practically all cases and in a small number leads to a cure.

The author has operated in this way twenty-seven times. Of these, twenty-six were relieved of pain; in eight the larynx was cured, and in five the pulmonary process eventually became arrested.

One cure has lasted five years and six months, and one four years and eight months.

He analyzed 134 cases:

Class A represents patients, who, were it not for the epiglottidean disease, might be classed as favorable.

Class B. Results in patients suffering from dysphagia in whom other lesions would warrant an unfavorable prognosis even if the epiglottis were not affected.

Class C. Patients of whom it was impossible to get data regarding the general condition.

	Class A (11 Cases)	Class B (83 Cases)	Class C (40 Cases)
	Per Cent	Per Cent	Per Cent
Pain relieved.....	100	95.18	62.5
Epiglottis healed....	100	84.88	62
Larynx healed.....	72.72	3.61	20
Patient cured.....	45.45	....	17.5

Indications for amputation are:

1. Every case of involvement accompanied by severe dysphagia regardless of the state of the lungs.

2. Cases in which dysphagia has not developed, if the lesion is extensive and there is still hope of arresting the pulmonary disease.

3. Any lesion that resists treatment.

4. When condition of epiglottis is such as to hinder correct treatment of underlying lesions.

Hemorrhage has never been serious, post-operative infection is practically unknown; the condition of the lungs is not made worse; the wound generally heals within fourteen days and dysphagia is almost always immediately abolished.

There is no difficulty in swallowing and solid food can generally be taken within forty-eight hours.

Dr. Carmody, in discussing this paper, stated that he became interested in this subject by his association with Dr. Lockard, and had seen a number of the cases operated by the author, and had operated, in this way, nine times himself. He also stated that cases in which the ary-epiglottic folds and arytenoids are involved are not entirely freed from pain but are sufficiently relieved to warrant the operation. One of the most important points, emphasized by him, is the facility with which the underlying lesions may be treated or curetted after the removal of this organ.

Dr. Levy stated an apparent small point of a tubercular focus seen in the laryngoscope often proves to be a large lesion. Dysphagia itself is so often due to the involvement of the epiglottidean folds. The rapid healing is a revelation.

Dr. A. J. Markley read a paper entitled, "Cutaneous Blastomycosis." This disease, the most recent addition to diseases of the skin, was first described in 1894 by Gilchrist of Baltimore. It is, however, only within a few years that it has been accepted by dermatologists as it resembles several other diseases of the skin in some of its clinical and pathological aspects. The parts that are ordinarily affected are the hands and face, although it may involve any part of the body. The appearance of the diseased areas vary in different cases, from the acute type with an elevated, irregular and distinctly papillomatous surface of a purplish or deep red color, to the sub-acute type with a dry wart-like surface and much scar formation.

The characteristic feature of the disease is the appearance at the spreading border of millary abscesses deep in the epidermis. At times a systemic infection develops with formation of internal abscess and a generalized septicemia. The specific cause is a yeast fungus which can be demonstrated in the surface secretions, in the millary abscesses, and in the stained tissues. They are 10-20 microns in diameter, rounded or oval in shape and occur singly or in pairs. The anatomical characteristics of the diseased tissue are as follows: First: Excessive proliferation of the epithelium forming papillary projections on the surface and gown-growths into the corium; 2d, formation in this hyperplastic epiderm of millary abscesses of varying size; 3d, inflammatory changes in the corium. \* \* \* The diagnosis is based upon the demonstration of the specific organism, or if this is not possible, upon the examination of the diseased tissue. The paper was accompanied by case reports with photographs and microphotographs. Dr. Davis (W. H.) stated that the disease was quite common about Chicago. He has one case under observation at present time. His treatment consists in giving large doses of K. I. and using a one per cent solution of copper sulphate. The disease in this particular case has cleared up to a very great extent. X-ray is of value; excision and curettment are not satisfactory. Dr. Garwood has seen one case—that of a negro. Dr. Markley stated that the X-ray and K. I. is of great value. The X-ray has a selective action upon hyperplastic tissue.

Under reports of cases, Dr. Wetherill reported a case of Raynaud's disease where multiple amputations had been made, the last being of leg by him, under spinal stovanzation produced by Dr. Parsons. The stump healed by primary union, the patient being free from pain, and has not had a recurrence of gangrene. This operation was performed at St. Luke's hospital, Nov. 11, 1908.

Adjourned. Number present, 61.

A regular meeting was held Dec. 21, 1909. Minutes of previous meeting were read and approved. The following applications for membership were read and referred to the Board of Censors: Drs. Marshall, Ham, von Dwovzak, McGee, Ingraham, Roe, Markley, Russell, Garwood, and McKenney.

Dr. Bane presented a resolution urging the need of placing the library in a fire-proof home, or in a building of our own. This matter will be discussed at the next meeting as a special order of business.

Dr. Bernard Oettinger read a very complete paper on "The Complement Fixation Test for Syphilis" (Wasserman Reaction) by the Bauer-Hecht-Fleming method. Discussion by Drs. Simon, Ringolsky, Moleen, Hillkwitz, and Oettinger.

Dr. Denison reported a case of melano-sarcoma in a girl of seven and a half years who was born with a small mole on her left thigh which grew continually until it reached the present size, 7x13 cm., two years ago. Since that time it has been growing in depth rather than in breadth. Recently the upper part has ulcerated over an area of 4 cm. in diameter and emits a very foul odor. The growth was removed by operation, October 19th. The specimen is a papillomatous, dark brown, shaggy tumor projecting 1 to 2 cm. above the skin surface. At the lower pole numerous coarse, brown hairs project from between the papillae. Microscopical examination shows growth in the tissue underlying the epidermis, the predominant cell of which is endotheloid, largely in alveolae, and with vascular stroma. In places the cytoplasm of these cells is filled with pigment granules. Owing to the remarkable superficiality and uniform character of the growth together with the wide excision and absence of metastasis, a good prognosis was given. Up to the present time the patient remains well. Dr. Denison discussed just what constitutes the onset of malignancy in a mole and came to the conclusion that when moles show definite growth they are already malignant and should be treated as such.

Dr. John Lindahl read a paper entitled, "Ludwig's Angina," with brief report of six cases. Discussion by Dr. Dwovzak.

"Laity Instruction in the Care of School Children" was considered by Drs. Bates, Bane and Sedwick.

There is a law in this state on the examination and care of school children and on humane education. The idea of instruction among the public was endorsed by the society. Dr. Bane spoke on breathing and hearing and Dr. Sedwick spoke on eye strain. Leaflets were read which were prepared and simplified for the laity.

The meeting then adjourned. Members present, 53.

#### Officers Elected Jan. 4, 1910.

President, C. V. Van Zant; vice-president, H. R. McGraw; secretary, E. W. Lazell; treasurer, W. H. Davis; librarian, C. G. Parsons.

Trustees—Drs. Jackson, Jayne, Black, Stevens, Kenney.

Censors—Drs. Barry, Cooper, Shere, Sedwick, Libby.

Delegates for Two Years—Drs. Hill, Moleen, Arneill, Cuneo, Hall, Finucane.

C. G. PARSONS, M. D.,  
Secretary.

#### EL PASO COUNTY.

The annual meeting of the El Paso County Medical Society was held at the Antlers hotel on Wednesday, Dec. 8, 1909, at 8:15 p. m. Fifty-two members attended. Dr. H. Trossbach was elected to membership. The resignation of Dr. A. W. Vanneman, on account of moving to Douglas, Ariz., was read, and accepted by vote. The annual reports of the secretary, treasurer and librarian, and the proposed constitution and by-laws, were read and accepted by vote.

The election of officers resulted as follows: For president, Dr. Gerald B. Webb, Colorado Springs; vice-president, Dr. Z. H. McClanahan, Colorado Springs; secretary, Dr. Louis H. McKinnie, Colorado Springs; treasurer, Dr. Geo. B. Gilman, Colorado City; delegates to the State Society, Dr. Peter Oliver Hanford, Colorado Springs; Dr. P. A. Loomis, Colorado Springs.

Dr. J. A. Patterson exhibited a case presenting a *synechia* of the mucous membrane of the right side of the mouth. The cheek is bound to the alveolar process of the lower jaw on the right side from the incisor to the first bicuspid above and from the canine to the second bicuspid below. The first bicuspid has been lost and the lower middle and lateral incisors in the lower jaw of the left side have been extracted so that he could through this aperture place solid food into his mouth for mastication. There seems to be no anchylosis of the right maxillary joint. This young man is now aged 20. He says that when about five years of age, he had what they called where he lived a slow fever, presumably a malarial fever. He says the doctor salivated him to save his life. A very sore mouth followed, as that healed his jaw became fixed in the position described. Five years after this the teeth were extracted as mentioned. When he first recovered from his illness, having been in bed eleven months, he succeeded with some effort in getting the blade of a table knife between the molar teeth. By gradually making efforts to open the mouth he succeeded in obtaining the present aperture. At the time this fever occurred he was residing in Arkansas, in the swamp section, in the southeastern part of the state, fifteen miles from the Mississippi river. With the exception of four years spent in western Texas he has always resided there until the present time.

The meeting adjourned to the dining room.

OMER R. GILLET, T,  
Secretary.

#### LARIMER COUNTY.

Larimer County Medical Society, Post-Graduate School, met Dec. 7, 1909, in the Y. M. C. A. building. Present: Drs. Dale, Kickland, Replogle, Taylor, Stuver, Morgan and Sadler.

Dr. Sadler discussed *mania and melancholia*. He followed the outline as given in the official program. Dr. Atkinson being absent, his time was taken up by a general discussion of the subjects of the evening.

Adjourned.

Larimer County Medical Society, Post-Graduate School, met Dec. 15, 1909, in the Y. M. C. A. building. Present: Drs. Kickland, Replogle, Winslow, Kaupp, Stuver, Glover, Taylor and Morgan.

Dr. Replogle, who has been devoting a great deal of time to getting up the Hospital Benefit Concert, was not prepared to discuss his subject, "*Epileptic Insanity*," consequently the topic was presented for general discussion. Dr. Stuver opened the discussion by calling attention to the various forms of epileptic psychoses, viz.: 1, Pre-epileptic insanity; 2, post-epileptic insanity; 3, epileptic equivalents; 4, chronic epileptic psychoses. The discussion was also participated in by Drs. Kickland, Winslow, Kaupp, Replogle and Glover.

An informal discussion was then had on *pellagra*, in which Dr. Glover took a prominent part.

Adjourned.

Larimer County Medical Society, Post-Graduate School, met Dec. 22, 1909, in the Y. M. C. A. building. Present: Drs. Dale, Kickland, McHugh, Schofield, Taylor, Kaupp and Stuver.

Dr. Stuver read a paper on "*Paralytic Dementia*," which he defined as "a disorder characterized chiefly by progressive enfeeblement of the mind, together with progressive general paralysis of the whole body."

**Etiology:** "Intellectual overwork or strain, working on a foundation impaired by syphilis or alcoholism or both, together with heredity, advanced civilization and culture are the chief causes of the disease."

The **symptomatology** is described under three stages: (1) **Prodromal:** "Onset very insidious, almost unnoticeable. May be mistaken for neurasthenia. Sleeplessness, tremor, irritability of mood, hypochondriacal depression, dull headache, ophthalmic migraine, pains in various parts of the body, general malaise, loss of appetite, digestive disorders." (2) **Period of Establishment of the Disease:** (a) **Chief Physical Symptoms:** "Peculiar articulation and writing, tremor, pupillary disorders, lost or exaggerated reflexes, muscular weakness, apoplecticiform and epilepticiform crises, emaciation, trophic disorders." (b) **Mental Symptoms:** "Failure of memory for both recent and old events, diminishing number of concrete, abstract, special and general ideas, weakening of judgment, loss of sense of time and place, delusions (marked by enormous exaggeration whether exalted or depressed), hallucinations and illusions, emotional irritability; exalted, sometimes depressed mood; loss of ethical and esthetic feeling." (3) **Terminal Period:** "A

gradual and continuous failure of mental powers that ends in inevitable death."

**Duration and Prognosis:** Runs its course in an average in from three to five years; very rarely may last ten. The disease always ends in death.

**Diagnosis:** The chief disorders with which paralytic dementia may, during its course, be confounded are: "Neurasthenia, alcoholism, syphilis of the central nervous system, acute mania, epileptic dementia paranoïa or secondary paranoïa with delusions of grandeur, multiple sclerosis and mental conditions associated with common organic lesions of the brain (tumor, hemorrhage, embolism, thrombosis). In atypical cases the diagnosis is often difficult and sometimes impossible." The paper closed with an outline of the pathological anatomy and the treatment.

Dr. Taylor read an interesting paper on "Paranoïa." It is a progressive psychosis founded on a hereditary basis, characterized by an early hypochondriac stage followed by a stage of systematization of delusions of persecution which is transformed into systemized delusions of grandeur. Hallucinations, especially of hearing, may be present, but the principal symptom is the elaborate system of fixed delusions which is present. Heredity is an important factor in the etiology. A paranoïac rarely has paranoïac offspring, but there is usually to be found a bad strain somewhere in the family history, marked eccentricity, epilepsy, hysteria, alcoholism or criminality. Paranoïa never shortens life; most patients live to old age, none recover. The disease usually terminates in dementia.

Adjourned.

E. STUVER,  
Secretary.

#### WELD COUNTY.

**Post-Graduate Class** met Friday, Nov. 26, 7:30 p. m., at the office of Dr. Thompson.

Dr. Woodcock gave the first lesson on the subject of "Acute Gastritis," and Dr. Pogue followed with "Chronic Gastritis." The subjects were both intensely interesting, as we are called to treat these ailments more frequently than any others. The point was emphasized that errors in diet and tobacco using are the chief causes. Also taking too much liquid at meals.

Treatment suggested in the acute stage was to correct errors in diet, give stomach absolute rest and apply ice bag to stomach.

In the discussion the use of stomach tube was recommended to correct the trouble in chronic gastritis.

**Post-Graduate Class** met at 7 p. m., Dec. 3, at the office of Dr. Broman.

Dr. Hughes gave the first lesson on the subject of "Acute and Chronic Dilatation of the Stomach."

Dr. Thompson followed in a talk upon the subject of "Stenosis of the Pylorus."

Both papers were freely discussed. Two members of the Weld County Medical Society, Drs. Dyde and Harmer, were present as visitors.

**Post-Graduate Class** met at 7:30, Dec. 9, at Dr. Woodcock's office.

Dr. Ringle discussed the etiology of gastric ulcer. Dr. Mead gave the symptoms and treatment.

Drs. Hughes, Woodcock and Thompson illustrated the surgical treatment by performing a gastro-enterostomy and an end to end anastomosis on the organs of a pig. The discussion was lively and continued to a late hour. Light refreshments were served by Dr. Woodcock.

**Post-Graduate Class** met Thursday, Dec. 23, 8 p. m., at the office of Dr. Reed.

The subject of "Cancer of the Stomach" was the subject of the lesson. Principal speakers were Drs. Reed and Broman, followed by a very free discussion by all present. The necessity of exploratory operation was emphasized in obscure cases in order to operate if necessary before too late to be of benefit to patient.

D. W. REED,  
Secretary.

On December 6 Weld County Medical Society held what was probably the most active and best attended meeting of the year, seventeen being present.

Dr. Hughes reported a case of measles in which the rash preceded the coryza and constitutional symptoms. Dr. Miller reported a case in which the prodromal symptoms as well as those of direct onset were typical of small-pox. The rash had the shotty feel but disappeared in a few days. He also reported a case of lichen planus. Dr. Weaver reported a case of small-pox in a small child, also three cases of diphtheria in one family, two of which developed the disease after receiving immunizing doses of five hundred units. Dr. Law gave some of his early experiences with small-pox. President Dyde reported a case of albuminuria of pregnancy. The albumin, with some blood, continued a few weeks following a normal confinement. Later the albumin cleared up, but a haematuria remains.

The paper of the evening was read by Dr. Shields—"Methods of Dilating Pregnant and Parturient Uteri." In his introduction he urged the non-interference in obstetrics so far as possible. Labor, being a physiological process, should not be disturbed unless there is present some decidedly abnormal condition. Nature's forces terminate unaided 90 per cent of all labors. Under anesthesia and asepsis, the modern accoucheur can care for the 10 per cent needing assistance with more relief of suffering and greater safety to the mother and child than in former years. The choice of methods of dilating the uterus must have respect for: First, the condition of cervix; second, the urgency of the case; third, the response of the uterus to stimuli. There is great divergence of opinion as to methods. Laminaria and sea-tangle tents are obsolete in this country, but still used by the Germans and the French. The Hegar bougie system is safe and adaptable to a large number of cases. Manual dilatation is safe but impracticable in many cases. Packing cervix and vagina with sterile gauze is safe but often too slow. The water

bag—colpeurynter—in vagina stimulates uterus and prepares vagina and perineum for passage of child. When introduced into the uterus—metreuynter—it dilates after the manner of Nature's bag of waters and is both safe and effectual. The writer considered quite fully the various metal instruments—of which there are more than fifty designs on the market—for dilating the cervix under any and all conditions, setting forth the advantages and disadvantages of such methods. The paper was discussed by Drs. Church, Call, Miller, Reid and Law.

This being the last meeting of the year, the society proceeded at once to the election of officers. The election was closely contested throughout but resulted in the following choice: For president, Dr. O. F. Broman; vice-president, Dr. J. A. Dungan; secretary-treasurer, Dr. J. K. Miller.

Members present: Drs. Dyde, Ringle, Pogue, Hughes, Reid, Weaver, Law, Thompson, Miller, Shields, Broman, Call, Dungan, Church, Mead, Woodcock, Graham, Greeley and Dr. Jones of Kersey.

Adjourned.

J. K. MILLER  
Secretary.

## Other Societies

### COLORADO OPHTHALMOLOGICAL SOCIETY.

The December meeting was held at the office of Dr. Melville Black, who presided.

Dr. G. F. Libby presented a case of lymphangiectasis conjunctivae in a woman of 56, following the last one of several sub-conjunctival hemorrhages. The hemorrhage had largely absorbed, but the cyst remained. It was five mm. long by one mm. in diameter, and rather painful on slight pressure.

In discussion, the use of dionin was suggested by Dr. Neeper, to promote absorption; while Drs. Jackson and Black favored excision. The occasional occurrence of cerebral hemorrhage as a sequel to sub-conjunctival ecchymoses, was pointed out, together with the fact that these ecchymoses usually occurred in the night. A study of the kidneys and the blood pressure and a search for arterio-sclerosis was considered advisable in cases showing sub-conjunctival hemorrhages, especially if recurrent.

Dr. Black reported a case of obstruction of the central retinal artery, and Drs. Bane and Walker the removal of steel in the vitreous by use of the Haab magnet.

Dr. F. R. Spencer exhibited stitch scissors devised by himself for facilitating the removal of stitches from the conjunctiva or eyelids.

The working of the new law for the examination of the eyes of school children was freely discussed. It was the consensus of opinion that these tests by school teachers should be simplified, especially by abolition of the astigmatic chart.

GEORGE F. LIBBY,  
Secretary.

## Items

(Personals and items of interest should be sent to Dr. T. E. Carmody, 1427 Stout Street, Denver.)

Dr. Mary E. Phelps, of Canon City, leaves this month on a trip around the world. She expects to be gone a year and will spend some time in Europe before returning home.

Dr. Minerva M. Knott, of Sedalia, Mo., has located in Canon City. During the absence abroad of Dr. Phelps she will look after the latter's practice.

Dr. F. N. Carrier, of Canon City, has been appointed surgeon in charge of the construction camps of the Canon City, Florence and Pueblo Irrigation Co. Work is expected to begin in March.

Dr. John McFadzean has returned to Del Norte after spending the summer in Europe. Most of his time was spent in Scotland and in London doing post-graduate work. The doctor found exceptional opportunities for the general practitioner at Edinburgh.

Dr. G. A. Bradburn, formerly of Center, but lately removed to Roseburg, Ore., has been revisiting his many friends in the San Luis valley.

Dr. Higbee, formerly of Las Animas, has purchased the practice of Dr. D. W. Sheldon, at Manzanola. Dr. Sheldon will remove to California.

Drs. Moody and Dulin, of Las Animas, have dissolved partnership.

Dr. E. W. Ragsdale, of La Junta, has been in Kansas City the past month in the interests of his profession.

Dr. G. B. Edwards, a graduate of O. M. U., and formerly of Pennsylvania, is temporarily located at Cheraw.

Dr. Willson, who removed from Holly a year ago, has again returned to his former practice.

Dr. R. M. Smith, of Holly, has removed to Akron, Colo.

Dr. Jas. Carey has located at Tinmath, Colo.

Dr. D. C. Hanger, Cheraw, left January 1st, returning to Missouri, where he will locate.

There are 58 students in attendance at the Army Medical School at Washington, the largest class in the history of the school.

Dr. E. A. Whitmore of Leadville spent Friday and Saturday, December 17 and 18, in Denver.

Dr. Sol G. Kahn, of Salt Lake City, who for many years practiced medicine here, made a flying visit to Leadville on December 16 to



attend the family reunion on the anniversary of his father's eightieth birthday. The doctor says that he is much pleased with his new field, and that the only regret he has is that he is so far separated from his medical friends in Colorado.

Dr. E. Stuver is delivering a course of lectures on the "Human Machine," before the Y. M. C. A. One each month during the season—September to June.

Dr. Hadley of Telluride suggests a new method of putting on rubber gloves: If, as the last step in the preparation of the hands, they are rinsed in alcohol, while yet wet with the same, they will slip into the freshly boiled gloves with perfect ease. By this method it will be found that no handling of the external surface of the glove is required, except picking it up by the wrist portion.

## Correspondence

To the Editor:

Anent the article, "The Hurtfulness of Sun Baths" in "COLORADO MEDICINE" for November, I wish to report a case.

Mr. V., Mexican, age 21, was hunting cattle July 14 and 15. Becoming weary, he lay down on a sunny hillside and fell asleep, probably more than an hour. On the 16th he was taken with a chill, severe headache and malaise, continuing for three days with obstinate constipation. On the 19th I saw him for the first time; he still had severe occipital headache, fever (101 F.), dry coated tongue, frequent vomiting and pain in epigastrium. I gave him calomel purge and acetanilid compound for headache and fever. Symptoms grew worse except that vomiting ceased and that night he was delirious. Next day (20th) gave Epsom salts in hot water every hour; after five or six doses the bowels moved freely, followed by marked improvement in all symptoms. On the 21st he was so much better that he planned going back to the country, but on the 22d he was taken with violent earache, neuralgic in character, return of headache and pain in epigastrium. He grew steadily worse, having periods of delirium. On the night of the 26th began incontinence of urine and feces, with stupor deepening into coma. There was jactitation and subsultus of right side only; no apparent paralysis of any part. The pupils were dilated, and on the 27th typical Cheyne-Stokes breathing developed. The pulse was always regular, quite strong, full and very slow. Death came on the 30th. Autopsy refused. The exact diagnosis lay between meningitis and uremia (there was lacking the urinous odor), but in either event the exciting cause seems to have been too much Colorado sun.

E. D. BURKHARD,  
Ludlow, Colo.

(It has been suggested to the editor that this might be the case of an acute inflammation of the sphenoidal sinus.)

New York, Oct. 16, 1909.

Editor of "Colorado Medicine,"

Denver, Colo.

Dear Sir—On the invitation of the Department of State of the United States Government, the fifteenth International Congress on Hygiene and Demography will convene for the first time on the American continent in Washington, D. C., from September 26th to October 1, 1910. Section III of this Congress deals with the subjects of the Hygiene of Infancy and Childhood: School Hygiene. It is believed that this will be a meeting of the utmost importance.

We take this means of requesting your readers to let us know of any pieces of original work which are being done, bearing upon this topic.

Sincerely yours,  
A. JACOBI,

President.

LUTHER H. GULICK,  
Secretary.

## Books Reviewed

**Gynecology.** Edited by Emilius C. Dudley, A. M., M. D., and C. von Bachelie, M. S., M. D. The Practical Medicine Series. Series 1909. Under the General Editorial Charge of Gustavus P. Head, M. D. The Chicago Year Book Publishers, 40 Dearborn St. Series of 10 Vols., \$10.00. Single Vols., \$1.25.

In this volume comprising the year's progress in gynecology the important articles which have appeared in the different medical journals during the year are briefed and give one a concise resume of their contents.

The book is a valuable addition to the specialist and a real service to the profession.

**Obstetrics.** Edited by Joseph B. De Lee, A. M., M. D., with Collaboration of Herbert M. Stowe, M. D.

This volume, like the one of Gynecology, reports the year's progress in obstetrics. Under different headings the important articles which have appeared are quoted and the different authors' views given with reference to the original articles. The editor's occasional notes are interesting and are an addition to the volume.

As De Lee states a year is a short time in which to mark off any great change in medicine, but this volume is full of interesting advances and discussions. Extra peritoneal Caesarian section is now a live subject. Pubotomy also, while Toxaemia and Eclampsia are still far from being understood.

This volume on obstetrics offers an excellent means of reviewing the important new articles and of keeping abreast of the subject.

C. B. I.

**The Principles and Practice of Medicine.** By William Osler, M. D., F. R. S., F. R. C. P., London, Regius Professor of Medicine, Oxford. Seventh Edition; Thoroughly Revised. Octavo. Cloth. Pp. 1143. Price, \$5.50 Net. New York and London: Appleton & Co. 1909.

The author remarks in the preface that the three years which have passed since the last edition, have been rich in additions to medical knowledge. In the present volume are incorporated the epoch-making discoveries in syphilis, the work of the New York Pneumonia Commission, the British triumph in stamping out Malta fever, the work of Gorgas at Panama and Strong in the Philippines, the new work on trypanosomiasis, psorosomiasis and tropical splenomegaly, the work of Flexner in cerebrospinal meningitis, the contributions in bacillus-carriers, the new views on infection heredity, diagnosis and treatment of tuberculosis, the studies on anterior-poliomyelitis, and the work on Rocky Mountain sickness, milk sickness and serum disease. The section on parasites has been carefully revised, and received many additions. He has written a new section on acute dilation of the stomach, a complete revision of peptic ulcer in the light of recent surgical work, new sections on diverticulitis, parotitis, pancreatic and adrenal insufficiency, edema of the lungs, Banti's disease, polycythaemia, etc. Among the nervous diseases have been incorporated the studies of Marie on aphasia, the new work on spastic paraplegia, Oppenheim's disease, posterior basic meningitis, psychasthenia, etc.

It will thus be seen that in this edition, the best known of text books on the practice of medicine has been brought thoroughly up to date.

H. S. D.

## Books Received

**Systemic (Including Special) Pathology.** By J. George Adami, M. D., and Albert G. Nicholls, M. A., M. D., F. R. S., Assistant Professor of Pathology in McGill University. Octavo. 1082 Pages. 310 Engravings. 15 Colored Plates. Cloth, \$6.00, Net. Philadelphia and New York: Lea & Febiger. 1909.

**Medical Chemistry and Toxicology.** A Text-Book of Medical Chemistry and Toxicology. By James W. Holland, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Second Revised Edition Octavo of 655 Pages, Fully Illustrated. Philadelphia and London: W. B. Saunders Company. 1908. Cloth, \$3.00 Net.

**Primary Studies for Nurses. A Text-Book for First Year Pupil Nurses.** By Charlotte A. Aikens, Formerly Superintendent of Columbia Hospital, Pittsburg, and of the Iowa Methodist Hospital, Des Moines. 12 mo. of 435 Pages, Illustrated. Philadelphia and London: W. B. Saunders Company. 1909. Cloth, \$1.75 Net.

**A Text-Book of Materia Medica, Pharmacology and Therapeutics.** By George F. Butler, M. D., Professor and Head of the Department of Therapeutics and Professor of Preventive and Clinical Medicine, Chicago College of Medicine and Surgery, Medical Department Valparaiso University. Sixth Edition, Revised and Enlarged. Octavo of 708 Pages. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, \$4.00 Net.

**Materia Medica and Therapeutics, Preventive Medicine, Climatology.** Edited by George F. Butler, Ph. G., M. D.; Henry B. Favill, A. B., M. D.; Norman Bridge, A. M., M. D. Series 1909. Vol. VIII. The Practical Medicine Series under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Chicago: The Year Book Publishers, 40 Dearborn St. Octavo. Cloth. 348 Pages. Price \$1.50.

**New and Non-official Remedies, 1909.** Containing descriptions of the articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1, 1909. Chicago: Press of American Medical Association. 1909.

**Text-Book of Modern Materia Medica and Therapeutics.** By A. A. Stevens, M. D., Professor of Therapeutics and Clinical Medicine, Woman's Medical College, Philadelphia. Fifth Revised Edition. Octavo of 675 Pages. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$3.50 Net.

**Medical Gynecology.** By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Second Revised Edition. Octavo of 702 Pages, with 150 Original Illustrations. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$5.00 Net; Half Morocco, \$6.50 Net.

**A Text-Book of Obstetrics. Including Related Gynecologic Operations.** By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. Sixth Revised Edition. Octavo of 992 pages, with 847 Illustrations, 43 in Colors. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$5.00 Net.

**The American Medical Directory. 1909.** A Register of Legally Qualified Physicians of the United States and Canada. Chicago, Ill. American Medical Association Press, 535 Dearborn Ave.

**Nervous and Mental Diseases.** Vol. X. The Practical Medicine Series. Edited by Hugh T. Patrick, M. D., and Charles L. Mis, A. M., M. D. 1909. Chicago: The Year Book Publishers, 40 Dearborn St. Pp. 248. Cloth. Octavo. Price of Series (10 Vols.), \$10.00. Price of Each Volume Separately from Series, \$1.25.

**International Clinics.** Vol. IV. Nineteenth Series, 1909. J. B. Lippincott Co., Philadelphia and London. Pp. 320. Cloth. Octavo. Edited by W. T. Longcope, M. D., Philadelphia. 1909.

**Transactions of the Medical Association of the State of Alabama** (The State Board of Health). Organized 1847. Meeting of 1909, Birmingham, April 20-23, Montgomery, Ala. Brown Printing Co., Printers and Binders. 1909. 714 Pages. Octavo. Cloth.

**The Physician's Visiting List** (Lindsay & Blakiston's) for 1910. Fifty-ninth year of its publication. The Dose-Table herein has been revised in accordance with the new U. S. Pharmacopoeia. Philadelphia: P. Blakiston's Son & Co. (Successors to Lindsay & Blakiston), 1012 Walnut St. 18 mo. Leather. Price \$1.00.

#### PAMPHLETS AND REPRINTS.

**Notes on the Prognosis and Treatment of Pellagra.** By C. H. Lavinder, U. S. Public Health and Marine-Hospital Service. Pp. 10. Washington: Government Printing Office. 1909.

**The Enzyme Treatment For Cancer—Final Report.** By Wm. S. Bainbridge, ScD., M. D., New York. Reprinted from the Medical Record, July 17, 1909. New York: William Wood & Co.

**A New Method of Intestinal Anastomosis.** New Instrument For Direct Transfusion of Blood and Temporary Anastomosis Between Blood Vessels. Ether Anesthesia by Compressed Air. By A. L. Soresi, M. D., New York. XVI International Medical Congress, Section VII, Surgery. Budapest. 1909.

**Epidemic Cerebro-Spinal Meningitis in Hartford, Connecticut, During 1904-1905.** By Walter R. Steiner, M. D., and Clarence B. Ingraham, Jr., M. D. Reprinted from the American Journal of the Medical Sciences, March, 1908.

**Plague Among the Ground Squirrels in Contra Costa County, California.** By W. C. Rucker, Past Assistant Surgeon U. S. Public Health and Marine-Hospital Service. Pp. 18. Washington: Government Printing Office. 1909.

**Chemical Tests For Blood.** By J. H. Kastle, Hygienic Laboratory, Bulletin No. 51, April, 1909. Pp. 62. Washington: Government Printing Office. 1909.

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- The Ethics of Animal Experimentation.** By James Rowland Angell, A. M., Head of the Department of Psychology, University of Chicago, Chicago. Defense of Research Pamphlet V. Chicago, 535 Dearborn Ave. 1909. Pp. 8.

# COLORADO MEDICINE

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No. 2

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

### TETANUS AND ANTHRAX IN THE MANCHURIAN CAMPAIGN.

Dr. Follenfant, the French army attache with the Russian forces in the recent war, states that up to 1904 only thirty-six cases of tetanus had been recorded among the Russian soldiers. After the battle of Mukden, however, a regular epidemic of the disease was noticed in March and April, 1905. There were over 300 cases treated among the severely wounded. The mortality was comparatively low, 80 per cent. The confusion incident to poor transport facilities and clouds of dust for the last three days of battle were looked upon as contributing causes.

In another part of the report it appears that suppuration in gun-shot wounds of a mild type was quite common. At least 50 per cent of the rifle-shot wounds suppurated in summer, and 80 per cent in winter. Shrapnel wounds suppurated at all times. The greater number of suppurating rifle wounds in winter is ascribed to the presence of dirty wool fragments carried in the wounds by the bullets when piercing the sheep-skin coats worn by the Russian soldier. No doubt the tetanus arose from this same cause to a large extent. The manure, dust and dirt generally, of an active campaign are apt to lodge upon such a favorable surface as that of a fur coat.

As to the presence of anthrax, the observations of the French doctor are especially interesting. The infection was not noticed in the war wounds, nor was it shown as a constitutional infection. The



cases were limited to the manifestation known as malignant pustule—*Peste Siberienne*. As many as two cases were admitted to hospital daily during January at Mukden. The cause is ascribed to infection from the sheep-skin overcoats made from the skins of animals that had died of anthrax. If the sheep-skin coats had covered rabbits, guinea pigs or white rats, the animals would have suffered from both infections. At least the experiments of La Garde\* have shown that tetanus and anthrax bacilli when carried into gun-shot wounds of susceptible animals by the bullet, caused the one or the other of these diseases, and death in nearly all of the cases. If the experiments with anthrax had been continued upon man the result could not have been more effectually brought out than they were upon the Russian soldier in Manchuria. His overcoat was contaminated by the spores of the two organisms; he contracted the disease of one of them, tetanus; but did not suffer the general septicaemia of anthrax, which, as La Garde has shown, invariably takes place in animals when shot under like circumstances. The difference can only be explained on the ground of susceptibility. Man's susceptibility to the constitutional manifestations of anthrax when introduced in a gun-shot wound would appear to be very low judging from the facts as shown, because we must conclude that the infected garment pierced by the bullets carried anthrax spores into the wounds over and over again in the Manchurian campaign.

\*"Poisoned Wounds by the Implements of Warfare." The Mütter lecture delivered at the College of Physicians, Philadelphia, Dec. 2, 1902.

### NOTICE.

The dues for 1910 are now payable to the secretaries of all the constituent societies. Statements of dues should be mailed by the secretaries to members this month. Remember that the secretaries are all busy men. Help them out by remitting promptly.

### CYSTOSCOPY AND URETERAL CATHETERIZATION.

Cystoscopy and catheterization of the ureters has opened for us a new and valuable field for diagnosis and treatment of obscure diseases of the bladder and kidney.

The bladder may be distended for examination either by water or by air. The Nitze instrument employs water. The Kelly systoscope uses air. The Bransford-Lewis is an excellent instrument for universal use with either method. There are many modifications of these instruments with merited advantages. Illumination of the interior of the bladder is obtained either from a small electric bulb on the end of the instrument, or, in the open-air method, by reflected light from a head mirror.

In the female the Kelly open-air cystoscope has distinct advantages. It is easily used. The bladder balloons out readily. Direct applications may be made, and in ureteral catheterization contamination of the upper urinary passages minimized.

Through the cystoscope trigonitis, ulcerations, cancer, stones, foreign bodies, or diverticulæ may be discovered and treated or removed.

In examination of the upper urinary tracts, the ureteral orifices are sought for, and their retraction or reddening may indicate the side on which the trouble lies. The urine is watched as it flows out 10-12 drops at a time, perhaps bloody or turbid with pus, from an affected kidney.

On passing the catheter up the ureter an obstruction from stricture or calculus may be encountered, measured on the catheter and so located. When passed into the kidney pelvis a hydronephrosis may be tapped and proved by subsequent injection of the renal pelvis. The normal pelvis hold from 7-10 c.c., a larger quantity indicating some degree of hydronephrosis.

For several years it has been the custom

in Dr. Kelly's Clinic, when a patient complains of indefinite pain in the right or left side, to inject the kidney pelvis until the patient cries out. If the pain, so produced, is the same that she has formerly experienced, the surgeon may be sure he is dealing with a kidney condition. How many floating kidneys are suspended without relief of symptoms! It should be made a rule not to suspend a kidney unless the injection test has produced the pain complained of or demonstrated a beginning hydronephrosis. A valuable aid to the X-ray in diagnosis of calculus is the wax-tipped catheter. After encountering a stone the magnifying glass shows a typical scratch mark.

The separate examination of urine collected from the two sides proves the source of albumin, casts, pus, blood, or bacteria coming from the upper urinary tracts. Cultures or the injection of the guinea-pig may be necessary.

Very important, in determining the extent of disease present, or the safety of nephrectomy, is the comparative estimation of kidney function. For this quantitative urea determination is useful. The method of Casper Richte, who injects a one-half per cent floridzin solution subcutaneously and estimates the amount of sugar excreted from the two sides, is to be recommended. Another method uses 4 per cent indigo carmin solution. In all these tests the amount of water excreted from both kidneys should be compared. Cryoscopy is a delicate technique of doubtful value.

It is the intention at one of the eastern hospitals to study the function of both kidneys in a patient with severe nephritis by urea estimation, floridzin test, amount of albumin, etc. When the work of the two kidneys has been estimated, the same study will be continued after a decapsulation, and so the value of this operation determined.

A word must be said in favor of the

treatment of pyelitis, by direct irrigation with dilute silver nitrate solution through the renal catheter, which has cured so many cases, especially of pyelitis in pregnancy.

The ureter may be dilated through the cystoscope by means of ureteral bougies and freed of a small stone, or of a stricture, without further operation.

It is evident that simple cystoscopy may be of considerable diagnostic and therapeutic value. With aseptic precautions in the female, it may be tried by the general practitioner. But in event of failure, or in the male, or in the presence of indications for catheterization of the ureters, the patient should be referred to the specialist.

#### *TREATMENT OF PNEUMONIA WITH LEUCOCYTIC EXTRACTS.*

Floyd and Lucas in the September *Journal of Medical Research* have reported their experiences with Opie and Hiss' method of injection of sterile leucocytic extract in the treatment of *pneumococcic pneumonia*. The extract is prepared as usual by injecting aleuronat into the plural cavity of rabbits, separating the sterile pus there formed by centrifugalization and beating up the leucocytes in distilled water. The dose for children is 10,000,000, adults 20,000,000 twice a day.

They have tried the method in forty-one cases of pneumonia with a mortality of 12.2 per cent. Some of these deaths being due to very virulent broncho pneumonia of children, it is fair to assume that the mortality would be less than the figures above given in a larger series of cases. The results compare very favorably with the mortality given by Wells, in 465,400 reported cases, 20.4 per cent.

The theory on which the use of leucocytic extract is founded is eminently rational. The results, as so far reported, are encouraging, and the method is certainly worthy of more extended trial than has, up to this time, been given to it.

## Original Articles

### *SOME OF THE MEDICAL ASPECTS OF BLOOD-PRESSURE.*

By O. M. GILBERT, M. D.,  
Boulder, Colo.

Broadly speaking, the pressure within the arteries depends upon two conditions: the output of the left ventricle, and the peripheral resistance. It is true that elasticity of the arterial wall, and the volume of blood contained within the vessels are also factors, but in a general way these may be said to constitute some of the elements which go to make up peripheral resistance. It may readily be seen that with the failure of either the output of the left ventricle or the vasomotor tone—which is the principal force in maintaining peripheral resistance—normal pressure cannot be maintained. The heart may be ever so strong, but if vasomotor tone fails there can be no maintenance of pressure, e. g., in shock, the heart is not at fault, but there is a failure of the vasomotor center by which the tone of the smaller arteries and arterioles is lost, and the patient is literally “bled into his own veins.” On the other hand the vasomotor tone may be ever so good and the force from behind, i. e., the ventricular contractions, fail and pressure cannot be maintained. These, however, tend to react, each upon the other, so that an increased output tends to produce an increased peripheral resistance, and an increased peripheral resistance invariably produces increased force from the ventricle—provided it has the power to respond.

We speak of systolic, diastolic, and mean blood-pressure. The last, however, is of very little practical importance, and can generally be disregarded. The diastolic is probably of almost as much importance as the systolic but on account of the practical difficulties in the way of its

estimation, it is not so generally used. Its greatest value generally is in its comparison with the systolic pressure, as the difference between the two, represents the pulse-pressure—or the force produced by the ventricle in excess of that maintained in the arteries during diastole.

Were it not for the elastic recoil of the arterial walls and the action of the circular muscular fibers contained therein, the ventricle would probably be unable to furnish the power necessary to force the blood through the vascular system. If it did, the flow would be intermittent, the systolic pressure being high and the diastolic very low. This condition is approximated in certain forms of arteriosclerosis, e. g., where the sclerosis affects mainly the large and medium arteries so that they become more or less rigid tubes. This is particularly true if there is a powerful ventricle to furnish the systolic pressure.

Before proceeding with consideration of the conditions which affect blood-pressure, it will be well to discuss some of the methods of estimating it. The method in most common use is, of course, the pressure of the finger tips upon the radial artery, and it is needless to say that a great deal of valuable information can be gained in this way, but its accuracy compared to that of an accurate sphygmomanometer is probably quite comparable to that of the estimation of the body temperature by the sense of touch instead of the clinical thermometer. However, this means is one which should by no means be neglected, as we will have an opportunity to use it many times a day, while the average practitioner will probably not use an instrument for the purpose once a day.

The estimation by the finger method is best made by placing three or four fingers upon the radial and compressing with the proximal finger until the pulse can no longer be felt by the other fingers, and estimating the required

pressure. It is also a valuable additional precaution, to compress with the distal finger at the same time, in order to prevent the recurrent pulse from the palmar arch, but this requires much more practice and skill.

Another method, which is strongly recommended, is to gradually increase the pressure of the finger tips upon the radials, noting all the while the change in the pulse-wave. In pulses of high tension the size of the wave is felt to increase for a considerable period, diminishing only when a very appreciable amount of force is used, while with normal or low tension pulses, the amplitude of the pulse-wave is reduced with a very slight application of pressure. Frequent comparison with an accurate instrument will increase one's efficiency very much. I find it a most excellent drill to always demand of myself an estimate by the touch method before using a sphygmomanometer. It serves to take the conceit out of me, about the time I think I have become quite proficient in finger estimation.

I shall not attempt to discuss the various instrumental methods which have been devised for the estimation of blood-pressure. It is sufficient to state that the method of circular compression by an air-inflated rubber bag, in one form or another, has come to be all but universally accepted as the most accurate and practical. Janeway and others have shown that the theoretical objections which were urged, do not hold to a practical degree. The principal of these was that the readings would be different in arms of various sizes, though the real pressure was the same.

Most of these instruments have been an outgrowth of the Riva-Rocci idea. The instruments in most general use in this country are: Cook's modifications of the Riva-Rocci, Stanton's, Janeway's, and, recently, Faught's. They all possess the same essential features, such as the circu-

lar compression and the mercury manometer. However, Cook's has a narrow cuff and distensible tubes. The broad cuff is undoubtedly much more accurate and it must be borne in mind that the readings are from five to forty millimeters lower than with the narrow cuff. With the non-distensible cuff and rigid tubes one is able to estimate diastolic pressure as well, while with the distensible apparatus only systolic is measured.

Erlanger's instrument comes nearest to being an ideal one, so far as accuracy goes, of any yet devised, but it is too complicated and lacking in portability to be generally used, except in experimental work. It is also quite expensive. It is constructed on the same general principles as the others mentioned but graphically and accurately records both systolic and diastolic pressure.

With most instruments the systolic pressure is determined by inflating the cuff until the pulse in the radial has been obliterated and then allowing the pressure to slowly recede. The point at which the pulse is first felt is conceded to be the systolic pressure. Shortly below this there may be a marked increase in the oscillations in the mercury column and a little lower it more or less suddenly ceases. This cessation of the maximum oscillations marks the diastolic pressure. Unfortunately this point is often very indefinite. This may be due either to the too slight oscillations or to the rapidity of the pulse making it difficult for the eye to follow it. Recently Ehrat has announced the following method which he claims is definite and certain: While gradually increasing the pressure, the finger is kept on the ulnar artery just below the cuff, and a very abrupt, "almost violent," increase in the pulsation is felt when the point of diastolic pressure is reached.

The normal systolic pressure in young adults generally varies from 100 to 130

with the broad cuff. Most often in the neighborhood of 115. This increases with age so that when one reaches sixty or seventy years, anything up to 145 or possibly 150 may be normal. The diastolic is normally from 25 to 50 lower than the systolic. Under pathological conditions the systolic may rise as high as 300 or fall as low as 65.

There are many things that influence blood-pressure in health, but only some of the more marked will be mentioned. The increasing height with age has been mentioned, also the greater height in the male. Occupation has a decided influence; those occupations requiring great muscular exertion and exposure tending to give the highest pressures. However, it is being more and more recognized that those which entail mental anxiety and nervous strain are very prone to cause high pressure. In many of these conditions it is impossible to eliminate other influences which tend to be associated with certain occupations and environments. Nervous people are more prone to variations of pressure—especially toward the upper limit. As to diurnal variations, it is probable that the fluctuation which one finds during the day, "presents a composite record of the effect, of the various physical and mental states, on blood-pressure," although the tendency to exhaustion of the vasomotor center toward the close of a hard day, must be taken into consideration.

Pressure is a little lower in the recumbent position than when sitting or standing. It is also lower during sleep, being lowest shortly after becoming sound asleep. Alcohol lowers and tobacco raises pressure. The tendency of cold is to raise, and warmth to lower pressure, but these are subject to many conditions which need to be studied in detail. Diminished atmospheric pressure produces a fall.

Coming to pathological variations, we

have to consider departures in both directions. Janeway considers three varieties of hypertension: One that occurs in connection with arteriosclerosis; the second, the well-known form associated with renal disease; and the third, where hypertension is present without the existence of either of these.

Arteriosclerosis in one form or another is no doubt by far the most common cause, but it must be remembered that quite extensive arteriosclerosis may exist without raising the blood-pressure. This may depend on any one of several causes: First, the coronary arteries are often coincidentally affected, causing a myocardial degeneration, whereby the heart is unable to maintain sufficient output to keep up a high pressure; second, the distribution of the sclerosis may be such that pressure is not materially effected. Not uncommonly the medium-sized arteries, such as the radials are affected and the arterioles and the splanchnic system fail to be involved. The part played by the splanchnics, is coming to be more and more recognized as the most important of any of the causative factors. Metchnikoff and Allbutt each particularly emphasize this fact and maintain that gastrointestinal toxemia is one of the main causes of the form of arteriosclerosis which raises blood-pressure most. Allbutt maintains that in the involutionary form of sclerosis, the pressure is never permanently raised and may even be lowered.

Renal disease causes the most constant and marked rise in pressure of any condition known, except acute cerebral compression. How this is brought about, has been and still is the subject of much controversy.

In the main there have been three explanations offered, none of which seem adequate to explain some of the conditions which are known to exist, Janeway says that, none of the mechanical theories seem

to be tenable. Traube's notion that the resistance offered to the heart in pumping blood through the diseased kidney, will not hold, since ligation of the abdominal aorta just above the origin of the renal arteries, causes only a transient rise in pressure. That of the increased blood volume due to retained water, has to go, as it is in the form in which there is little or no retention of water, that the pressure is highest.

The simpler chemical theories, such as the stimulation of the heart and arterial system by retained metabolic waste products, are met by the same objection, i. e., the greatest pressure occurs in the cases in which there is least retention. That it is due to the anatomical increase in tissue in the peripheral vessel-walls, seems improbable, as high tension occurs before anatomical changes have time to occur. Marked hypertension has been known to occur within 24 hours in a case of acute scarlatinal nephritis. The temporary response to vasodilators also augurs against this. Increased viscosity of the blood seems to have been largely discredited.

Janeway gives most credence to the theory advanced by Loeb, since it seems to accord with clinical facts to a greater extent than any of the others advanced. Loeb calls attention to the marked parallelism between glomerular changes and hypertension. The functional activity of the kidney is largely dependent upon the quantity of blood flowing through the glomeruli. He thinks that the demand for blood in the glomeruli is such that a reflex is sent up to the vasomotor center and a reflex splanchnic vasoconstrictor impulse is sent out which increases the general blood-pressure sufficiently to maintain a normal flow through the glomeruli. Hypertrophy of the ventricle and arterial tissue will necessarily follow and will be still further augmented when there is accumulation of metabolic waste products in the blood, de-

manding increased functional activity of the kidneys. (*Amer. Jour. Med. Sci.*, Jan., 1907.)

Hypertension is so common in chronic nephritis that the discovery of a tension much above normal without obvious cause should always lead to a thorough investigation of the kidney function. Its continued presence following acute or sub-acute nephritis should cause a strong suspicion of chronicity, despite the apparent absence of albumin. A recent case demonstrates this point. A boy of 16 had an acute nephritis about nine months ago and the albumin, casts and anemia continued for about six months when it was found to be absent, and the patient was not seen for three months. At that time the urine was also found to be free from albumin, but as the blood-pressure was found to be 135 with a broad cuff, a further examination was made in which albumin and casts were found to be present. The case is in all probability becoming chronic.

As to the hypertensions without known cause, our knowledge is very meager. When such cases are met, one can't help feeling that there is an undiscoverable nephritis or arteriosclerosis, but the most careful observers have to admit that there are a certain number of cases in which it is apparently a primary condition. Janeway reports 13 out of 131 cases of hypertension as belonging to this class. No satisfactory explanation of its mechanism has yet been given. In many instances a probable cause can be found. Of these I think that overeating—especially of proteids—and the excessive use of tobacco, are the most common. I have had such a case under observation for some time and both these factors are prominent. This *may* be a compensatory condition—a response to a demand for a better capillary flow through some part.

There are, however, two great dangers in hypertension. One is of arterial rup-



ture, and the other is of insufficiency of the left ventricle.

Just when and to what extent one is justified in attempting to lower blood-pressure, is one of the most difficult of clinical problems. Its satisfactory solution involves a more intricate understanding of its mechanism, than we possess at the present time. There are many instances in which the danger from the pressure is greater than the compensatory advantages. Of first importance is prevention, by means of the avoidance of those conditions which are known to produce it. Allbutt says that he has cases under observation in whom he recognized hypertension twenty years or more ago, and by limiting business cares and responsibilities, keeping regular hours, limiting the diet, giving plenty of milk, avoidance of alcohol and tobacco, he has been able to keep them in a fair state of health and comfort.

Janeway says that a hypertension is no more to be attacked therapeutically than a heart murmur. "Only those symptoms which point unmistakably to inadequate maintenance of the circulation, or to sudden threatening of danger, give us the signal to interfere."

Its effect on the left ventricle, however, must be closely watched. In case of danger from this source, not only the nitrites but digitalis is demanded. Long courses of potassium iodide also help. Whether it acts by reducing the viscosity of the blood or by its effect upon the vessel-wall is a question. Venesection is always in order in emergencies.

Hypotension is of far less importance clinically. It occurs in wasting diseases, the result of certain drugs, hemorrhage, collapse, shock and in a number of acute diseases, chloroform is particularly effectual in producing low pressure and therein lies its great danger.

Typhoid fever, diphtheria and influ-

enza each tend to cause a marked reduction in tension. It is probable that it has considerable prognostic significance in these cases. Sir Lauder Brunton has called attention to the effect of influenza. He says that he practically always finds a hypotension, and that it persists far into convalescence. I recently had occasion to verify this upon myself. Having suffered from an attack of influenza, I made note of my tension during convalescence, and found that it ranged from 95 to 105 for three weeks after I was able to resume duty.

In typhoid fever regular observation will assist very materially in indicating the need for stimulating measures, and helps very materially in diagnosing hemorrhage and perforation. In hemorrhage there is practically always a fall and in perforation generally a rise. This is, however, followed by a fall before death, if the perforation is fatal.

Tension remains low for several months after severe typhoid, and shows the necessity of rest. Thayer, however, has shown that later there is a rise. He examined a large number of persons who had had typhoid and found the tension to be above the average.

In tuberculosis I believe the tension is always low unless there are some of the conditions present which produce a counteracting tendency to high tension. When I find a person with active tuberculosis and a normal or high tension, I look for some of the causes of high tension and generally find them.

Pulmonary hemorrhage is said to be preceded by a period of high tension, but is followed by low tension if the hemorrhage is profuse. It may be followed by a rise to or above normal but this is soon succeeded by a fall to somewhat below normal.

I think we shall see more attention given to the study of blood-pressure in the future and it will certainly be well repaid.

*BLOOD-PRESSURE IN SURGERY.*

BY HASKELL M. COHEN,  
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The determination of blood-pressure has assumed such practical importance that every surgeon should be familiar with the use of some good instrument. The principal requirements of such an instrument are that the arm band should be broad, and the instrument portable and easily manipulated. It is well to bear in mind that determinations by the instruments now in use are only relatively accurate.

## CLINICAL OBSERVATIONS.

Experimental and clinical observations by Crile, Cushing, Cook, Janeway and others have shown that the estimation of the blood-pressure is of great value, both from a diagnostic and therapeutic point of view.

Crile (1) gives the following as the result of observations in a series of 1,000 operations:

*Cranium.* Incision of scalp, separation of periosteum and chiseling through the bone caused practically no change in blood-pressure. Irritation of the dura caused a fall with considerable irregularity. Sponging with pressure resulted in a marked fall. In a case of rapid hemorrhage from the meningeal artery, which was controlled by gauze packing, there followed a very rapid fall in blood-pressure. Blood-pressure changes following operations upon the head are proportionate, therefore, to the manipulation, the pressure upon the brain, the hemorrhage, and the duration of the operation.

*Neck.* Asphyxia caused a marked rise, up to 220 mm. mercury. Immediately following tracheotomy in this case the blood-pressure fell to 140 mm. mercury. Tracheotomy under cocaine in the absence of asphyxia is attended by no change in the blood-pressure. Laryngeal operations, and even laryngectomy, may be performed

without marked change in blood-pressure, provided the mucosa and superior laryngeal nerves be cocaineized. In operations upon the neck, the blood-pressure changes are proportional to the loss of blood, the mechanical insult to the tissues, the manipulation of the main nerve trunks, and to the duration of the operation.

*Thorax.* Excision of the breast for carcinoma caused but moderate change. Rough sponging, blunt dissection and strong retraction caused the most marked change. Resection of ribs caused slight change, but opening the pleural sack was followed by a marked fall.

*Abdomen.* The amount of shock was directly proportional to the degree of traumatism inflicted upon the peritoneum. The mucous membrane of the hollow viscera did not seem capable of producing shock. Exposure to air, sponging, manipulation, packing with gauze, and flushing out the abdominal cavity all caused a marked decline in pressure. Separating adhesions and bringing tumors into the wound also caused a marked change. In operations involving a small segment of intestine there was but slight change in pressure, provided the remainder of the peritoneal cavity was kept free from irritation. Appendectomy gave but little change. It is well to note that where manipulation caused a change in blood-pressure there was also an increase in the respiration. Operations on the upper abdomen near the diaphragm usually gave a decline. Operations on the ovaries, tubes, uterus, and vagina gave an immediate rise in blood-pressure, which continued during the period of manipulation and was proportional to the traumatism administered. Divulsion of the sphincter caused a marked rise in blood-pressure, and some increase in the pulse rate.

*Genito-Urinary System.* During incision of the kidney, slight effects were noted. During the removal of a carcino-

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matous kidney the blood-pressure fell rapidly.

*Testicles.* In dissecting a firmly adherent sack of a scrotal hernia and in excising a thickened hydrocele sack a marked fall in blood-pressure was noted. Amputation of the penis in an elderly subject gave a marked fall. Careful dissection of the enlarged veins of a varicocele produced no change.

*Spinal Column.* In laminectomies under cocaine, incision of skin, fascia, muscles and bone produced no change, but on exposing and exploring the membrane of the cord a marked fall occurred. This fall was followed by a tendency toward compensation.

*Hernia.* In inguinal and ventral herniae no change was produced, excepting when adhesions required manipulation.

*Extremities.* Stretching the sciatic nerve caused a marked rise. Operating on the soft parts produced an irregularity. In amputations, if the nerve trunks were first cocainized, thereby blocking the afferent impulses, no material change was noted. Operative procedure on bone gave little changes, but periosteal manipulation gave marked variations.

#### OPERATIVE SURGERY.

At the present time the practical application of the estimation of the blood-pressure in operative surgery is rather limited and is restricted to special cases. In *arteriosclerosis*, during the transfusion of blood, and in cases where *great hemorrhage* or *shock* is feared, the blood-pressure should always be followed, as it serves as an indicator in showing how far we may go. Cushing (2) draws attention to the tendency towards a *rise in blood-pressure during the administration of ether*, and to its *fall in chloroform anesthesia*, and for this reason he has abandoned chloroform as the anesthetic of choice in cranial operations. *Many minor operative procedures* which often fall to the lot of the physi-

cian, such as the aspiration of effusions, venesection, etc., may be made more free from occasional accident and may be more definitely regulated by accurate estimation of the blood tension. In operations upon the brain it is useful, and observations should be made continuously during the operation.

Cushing (3) was the first to show the exact effects of an increase of the intracranial pressure on blood-pressure. He produced both local pressure on various portions of the brain and general compression of the entire brain and cord. Local pressure produced symptoms which varied with the area upon which pressure was directed. In general compression, on the other hand, quite definite and constant effects upon the blood-pressure and pulse rate were noted, and these observations led to the formation of a physiological law, namely, that "An increase of intracranial tension occasions a rise of blood-pressure which tends to find a level slightly above that of the pressure exerted upon the medulla." He also showed that the rise of blood-pressure, which results from an increase of intracranial pressure above the blood-pressure, is due, in the dog, to a vaso-constriction of the vessels of the intestines, kidneys and limbs. Eyster, Burrows and Essick (4), in a recent experimental report, confirm the findings of Cushing. Hartley (5) gives, as the most frequent cause of death following operations on the brain, shock and sepsis. To minimize shock, he advises that the blood-pressure be recorded at regular intervals during the operation, and that the occurrence of a sudden fall will warn the operator of impending collapse. Horsley remarks that attention to this point will permit us to avoid the 25 per cent of sudden deaths following prolonged operations, and will force on us the necessity of two-stage operations. On the other hand, Frazier (6), in referring to this subject,

says that in his experience the results reported in the laboratory are not confirmed in the clinic, and that therefore as a guide to the grade of intracranial tension, or as an indication for operative intervention, blood-pressure observations with the instruments now available are practically worthless.

A further study of this subject and a greater number of blood-pressure reports will be necessary before the exact position between these two contrasting opinions can be definitely determined.

Extensive intra-abdominal manipulations, especially in the upper quadrant, may result in a rapid and marked fall in blood-pressure, but if blood-pressure estimations are made at the time, the extent of this disturbance may be accurately gauged, so that these manipulations may be stopped before irreparable damage has been done.

In connection with the subject of blood-pressure and operative surgery, I desire to call attention to the excellent charts used by Cushing at the Johns Hopkins Medical School. These records, in addition to the usual pulse, respiration and temperature spaces, have also a blood-pressure line, so that a glance shows the relation that the blood-pressure bears to the rest of the record.

#### DIAGNOSIS.

The estimation of the blood-pressure is of aid in the diagnosis of a number of surgical conditions. *Hemorrhage*, when considerable in amount, either during or after an operation or as the result of an accident, causes an immediate fall in blood-pressure. If, upon the cessation of the hemorrhage, shock does not supervene, the blood-pressure will again gradually rise. Since, however, shock is also characterized by an abnormally low blood-pressure, it will be impossible to differentiate between concealed hemorrhage and shock, if the blood-pressure records alone are considered.

A low blood-pressure, according to Kocher (7) and Cushing (3), may be present in concussion and the paralytic stage of compression. A marked rise in blood-pressure will usually follow any lesion, whether traumatic or non-traumatic, which produces an increase of the intracranial pressure and resultant anemia of the medulla. Eisendrath (8) says a high blood-pressure is present in (a) acute compression of the brain, due to splinters of a depressed fracture, or from an extra or subdural clot; (b) in fractures of the base of the skull; (c) in cerebral apoplexy. A high and rising blood-pressure indicates progressive failure of circulation in the medulla and an increasing hemorrhage. In the diagnosis of perforation during typhoid there is usually a marked rise in blood-pressure, and this may be of aid in making the diagnosis. Crile (1) reports five cases in which the blood-pressure determinations were of positive aid in making the diagnosis. The rise in these cases is due to the acute resultant peritonitis.

#### THERAPEUTICS.

As the result of many brilliant and painstaking experiments and observations, the subject of surgical therapeutics, if I may be permitted use of the term, has been removed from the realm of empiricism and has had thrown upon it the searchlight of modern scientific research. It is here especially that blood-pressure has played a star part, for without some definite way in which to measure surgical shock it would not be possible to determine what would be beneficial in treating this condition and what might be harmful.

To more intelligently understand the part that blood-pressure plays in shock, it might be well to briefly touch on the theories regarding shock, as many contradictory explanations are advanced. [Boise (10) gives cardiac exhaustion as the principal factor. Howell (11) thinks both

cardiac and vascular factors take part. Meltzer (12) sums it up as due to inhibition of all the functions of the body. Kinnaman (13) argues for a disturbance of the thermogenic function. Jaboulay (14) says it is due to the formation of an irreducible oxyhemoglobin. Vale (15) claims an increase of the specific gravity of the blood is responsible. Henderson (16) thinks that a diminution of the carbon dioxid content of the blood is the prime factor, and this condition he terms *acapnia*. Bainbridge and Parkinson (17) argue for a loss of chromaffin tissue following trauma. Crile (18) maintains that vasomotor exhaustion is the principal cause, and this at present is the view most generally held. It is of interest to note that in 1864, W. W. Keen, S. Weir Mitchell and G. R. Morehouse put forth practically the same theory as that now held by Crile. Seelig and Lyon (19), in an excellent resume of this subject, conclude from their experiments that the doctrine, that shock is due to vasomotor exhaustion, must be revised, but their work has not yet been confirmed.]

The essential characteristic, however, from the surgeon's viewpoint, is that a low blood-pressure is a constant accompaniment of shock, and that the state of shock can best be expressed in terms of manometric pressure. Yet in spite of all investigations and of a vast clinical experience, the treatment of shock is still far from satisfactory. Since then, the treatment resolves itself into a means of increasing permanently the blood-pressure, under this heading we must first place the *prevention of shock*. This is best accomplished by gentle manipulation of tissues and nerve-blocking where possible. The support of the circulation is most important, and resolves itself into therapeutic and mechanical methods. The value of therapeutic stimulants, such as strychnine, digitalis, alcohol, nitroglycerine, camphor,

ammonia, etc., has been subjected recently to inquiry, and, according to Crile (18), these drugs are practically valueless when used in shock. Mummery (20) states, the administration of strychnine in shock is like beating a dying horse; it may call forth an effort if we beat hard enough, but it hastens the end. Adrenalin may be of some benefit, especially if given subcutaneously in a large amount of saline, but at best it is diffusible. Henderson (16) claims that normal saline impregnated with carbon dioxid and given either intra-abdominally or intra-venously is of great value in shock.

Of the mechanical means at our disposal, the head-down posture and bandaging of the extremities may be mentioned. The use of the pneumatic suit designed by Crile may be substituted for bandaging, and by means of this, Crile claims that the blood-pressure may be raised from 15 to 40 mm. mercury. Another method of mechanically supporting the circulation lies in the use of saline solution, but in severe degrees of shock the rise of blood-pressure following its use is usually not well sustained. Crile (18) has shown that only a certain amount of saline solution is retained in the circulation, and that it tends by transudation to disappear into the walls and lumen of the abdominal viscera and into the broncho-pulmonary tract. In a personal communication, Mr. W. A. Lane, of London, writes that the subcutaneous use of about two pints of normal saline immediately preceding operation reduces shock in a striking manner, and he presumes that it acts by raising the blood-pressure.

Since in shock the blood-pressure is low, the already disabled vasomotor center is still further injured by the resultant anemia, and to overcome this, Crile (21) advises the transfusion of blood. He has shown experimentally that in every grade of shock, transfusion of blood produced a

rise in blood-pressure, frequently to the normal, occasionally above it, and that this rise was well sustained. He also demonstrated that overtransfusion, carefully executed, is of great importance in the prevention of shock, and that bad surgical risks may be rendered safe, either by a preliminary transfusion or by transfusion during operation. [A most important precautionary detail in transfusion lies in the fact that it must not be given with too great rapidity, as an acute and even fatal edema of the lungs may be thereby produced.]

In *hemorrhage* of any considerable amount, there is usually a fall in blood-pressure, and, according to Crile (21), the *primary* factor entering into this fall, is an anemia of the active physiological mechanism for the maintenance of the normal blood-pressure. Among the *secondary factors*, the action of the *vasomotor center* stands first. In the treatment then of hemorrhage, we must find some agent that will act favorably on this anemia and that will benefit and help sustain the vasomotor center. Of the drugs employed, *strychnia* is probably the best, and has been shown experimentally to be able to stimulate the vasomotor center, its effect depending on the amount of hemorrhage and the interval elapsing between the hemorrhage and the use of the *strychnia*. If, however, the blood-pressure is first raised by means of saline solution, the effect of the *strychnia* is more marked. *Digitalis* acts somewhat similarly, but is not so constant in its results. *Saline infusion* is usually efficacious in increasing the blood-pressure, and this rise favorably influences the vasomotor center. [To be effective, saline should always be given slowly, for if too quickly thrown into the circulation it may embarrass the heart to a marked and even dangerous degree.] Bandaging the extremities and trunk not only raises the blood-pressure, but seems

to maintain it. *Transfusion of blood*, according to Crile (21), causes an immediate rise in blood-pressure, and this influence on the blood pressure is very much greater than is the case with saline infusion. While saline solution will not sustain the blood-pressure at a higher level than the normal, direct transfusion of blood may, and usually does so, raising the pressure experimentally as high as twice the normal.

Since there is at present some difference of opinion among surgeons regarding the practicability of the use of blood-pressure, the following questions were submitted to a number of prominent surgeons in various parts of the country.

To what extent do you make use of the determination of blood-pressure in your surgical work?

In what class of cases do you find it of especial practical benefit?

What is your usual method of procedure in its employment?

Many prominent surgeons replied that they were unable to furnish any information on this subject. The following definite replies were received:

*Dr. J. B. Murphy*, Chicago, takes the blood-pressure in every patient over 40 years of age, and endeavors to regulate it where it is too high, before he undertakes any serious surgical procedure. It is especially practical in patients with arteriosclerosis, as indicative of the fact that they will not stand prolonged operations, and particularly that they will not stand extensive hemorrhages. He uses the Army and Navy apparatus.

*Dr. Harvey Cushing*, Baltimore, does not use it as constantly as he would like, owing to the fact that it requires an extra hand. There can be no question but that it is particularly desirable for neurological work. He uses special charts for the registration of the pulse, respiration and blood-pressure side by side.



*Howard Lilienthal*, New York, makes use of the determination of the blood-pressure whenever great hemorrhage or shock is feared, and finds it of especial benefit in operations upon the cranial contents. Readings are taken at the beginning of the operation, and continued during the same. Combined with segregation of the blood in the lower extremities, according to the method of Dawbarn, an increase of pressure may be obtained after a dangerous fall, by letting in more blood from the ligated extremity.

*Dr. A. J. Ochsner*, Chicago, is making use of the determination of blood-pressure regularly at present, and is accumulating observations under the care of one of his assistants, but pays no attention to the results of these observations until after the treatment of the patient has been completed, so that the patient will in no way suffer as a result of the observations. So far it has not been of practical benefit, for the reason that he is not beyond the point of observations, and consequently bases his treatment upon tried methods. He uses the Erlanger apparatus.

*Dr. J. M. T. Finney*, Baltimore, has had but little occasion to make use of blood-pressure in surgery. In his judgment it unquestionably has a place, but, with an experienced anesthetist, does not find it necessary. He, therefore, never uses it except in an occasional operation upon the head.

*Dr. D. N. Eisendrath*, Chicago, employs it under two conditions: (1) In head injury, to determine the degree of intracranial tension. In a number of cases of this kind it has confirmed a previously-made diagnosis of intracranial pressure due to extravasation of blood, either sub or epidural. (2) In cases of injury to the abdominal solid viscera, or in ruptured extra uterine pregnancy, it gave a similar confirmatory test of intraperitoneal hemorrhage. In the brain cases it is the great

rise of pressure, in some cases as high as 300 mm. mercury, which is of value, while in intraperitoneal or retroperitoneal hemorrhage, the great fall, to as low as 70 or 80 mm. mercury, is of value. He uses the Cook Briggs modification of the Riva-Rocci instrument.

*Dr. G. W. Crile*, Cleveland, uses it in operations upon the brain, the observations being made during the operation. In all cases of arteriosclerosis the blood-pressure is followed, and in transfusion the instrument is extremely useful. He uses the Stanton, or any form of broad band apparatus.

*Dr. J. C. Bloodgood*, Baltimore, does not use it as a routine, because in the majority of cases it is unnecessary. He has not found it of the practical benefit during operations that he had expected. He thinks that as soon as he can get his assistants educated up to this routine procedure, it may develop an important aid in estimating the exact strength of the patient, but it would be a great mistake to have the operating surgeon given a dilemma by an incorrect blood-pressure record, as he frequently is by an untrained assistant. Blood-pressure records are not of much value unless the one who uses the method understands how to use it.

*Dr. L. L. McArthur*, Chicago, makes use of this procedure only when there appears some specific indication to do so. For example, he has of late been using nitrous oxide gas anesthesia. This makes an early high blood-pressure, and therefore would be contraindicated in extremely atheromatous cases, and in cases with a tendency to cardiac dilatation. He thinks the subject has not received the consideration it deserves. He uses the Riva-Rocci apparatus.

#### SUMMARY.

In conclusion the following may be summarized as to the position that blood-pressure holds in surgery:

1. When properly used it is more accurate than a pulse observation as ordinarily made.

2. Its use is of enough importance that every surgeon should be familiar with the use of some good instrument.

3. There must be a greater number of routine determinations of blood-pressure records, correctly interpreted, before this procedure finds its limitations and proper place in surgery.

4. Experimentally, not only has it been, but it will continue to be of great value in determining the proper treatment of many surgical conditions, such as shock, hemorrhage, etc.

5. Practically, it is not only a valuable diagnostic aid, but is of much help during operation in selected cases.

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The new librarian of the Denver County Medical Society's library has recently instituted an efficient system for filing and indexing all reprints which may come into his hands. Writers are urged to send in all their reprints to the librarian promptly.

## BLOOD-PRESSURE FROM THE STANDPOINT OF THE OPHTHALMOLOGIST.

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#### THE RETINAL PULSE.

As observations on the radial pulse were the earliest clinical studies of blood-pressure, so the visible pulsation of the retinal vessels was the first symptom connected with the blood-pressure to attract the attention of observers with the ophthalmoscope. Visible pulsation of the retinal veins at the head of the optic nerve is quite common. It is an instance of the maximum pulse-wave, occurring where internal and external pressure are nearly balanced. The intra-ocular pressure is very nearly equal to the blood-pressure within the emergent veins; and when raised by the arterial pulse-wave the veins at the point of emergence are temporarily emptied and collapsed.

Careful observation of this pulsation in connection with acute general disease might throw light upon alterations in the general venous pressure. In 1878 Wadsworth and Putnam found that the pulsation of the retinal veins was not much altered by compression of the jugulars, but could be entirely stopped by pressure on the carotids, or as a primary effect of the inhalation of amyl nitrite. They also pointed out a slow rythmical alteration probably connected with rythmical changes in the arterial blood-pressure. But this method of studying the venous blood-pressure has rather been neglected.

An appearance early noticed with the ophthalmoscope is the broadening and pallor of the retinal veins in some cases of anemia. This change is not found in all cases of anemia, and may be quite absent although the anemia revealed by the blood count and general symptoms may be ex-

treme. It was early recognized that this must depend on a partial collapse of the retinal veins, an incomplete filling, so that the flexible venous tube flattened under the intra-ocular pressure, as a pneumatic tire does when the air partly escapes. This causes the vein to appear broader, and looking through a thinner column of blood gives the paler color. So far as I know the connection of this symptom with the general arterial pressure has not been investigated. Typical cases of the kind are not common, but there can be little doubt regarding the connection with lowered blood-pressure in the veins. In the present state of our knowledge this widening of the retinal veins should be spoken of as a symptom of lowered venous pressure, rather than as a symptom of anemia. Alteration in the color of the veins may be due either to their flattening, or to alteration in the constitution of the blood.

Pulsation in the retinal arteries is much less frequent than the venous retinal pulse. But it was early recognized after the invention of the ophthalmoscope, and its general significance appreciated. Very slight arterial pulsations can be recognized in a good many eyes. But, under normal conditions, the pressure in the artery is much above the intra-ocular pressure, and the conditions unfavorable for the recognition of the arterial pulse. In the great mass of eyes the intra-ocular tension is only about one-fifth to one-third of the arterial blood-pressure. Only when the latter is greatly diminished, or the intra-ocular pressure undergoes pathologic increase, do the mechanical conditions favor a maximum arterial pulse. After severe hemorrhage, in syncope, or in aortic disease marked by great decrease in the diastolic arterial pressure, the pulsation in the retinal arteries becomes very noticeable; and may be traceable over a large part of the eye-ground.

Incomplete obstruction of the central

retinal artery, although it lowers the local arterial pressure, at the same time shuts off the pulse-wave and no visible arterial pulse occurs. The contraction of the artery has been entirely gradual in the cases watched with the ophthalmoscope.

On the other hand arterial pulsation in the retina is an important, although inconstant symptom of glaucoma. Formerly it was puzzling to find arterial pulsation present in one case of glaucoma, and absent in another which showed equally high intra-ocular tension. But this can be largely explained by coincident differences in the general arterial pressure. Glaucoma may develop in a patient with almost normal blood-pressure, in which case a moderate increase of intra-ocular tension would cause visible pulsation in the retinal arteries. On the other hand a greater increase in the intra-ocular tension coincident with very high arterial blood-pressure might cause no visible arterial pulse. The relation of glaucoma to the general arterial pressure I will refer to later.

#### INCREASED BLOOD-PRESSURE.

Thus far we have considered chiefly the ocular evidences of lowered blood-pressure. Of even greater general importance are the ophthalmoscopic symptoms of increased blood-pressure. Ophthalmoscopic study of the vascular system has advanced so far that it is chiefly hindered by lack of knowledge regarding general or extra-ocular vascular changes. It is difficult to say when fulness, tortuosity, and dilatation of the retinal veins are due to *increase of the venous blood-pressure*, and when they arise from pathologic changes in the walls of the veins themselves. But in some cases we can positively assign the cause. In thrombosis of the central retinal vein, of the cavernous sinus, or of the orbital veins, or pressure by rapidly growing malignant tumors back of the eyeball, or the changes produced by sud-

den compression of the body, we assign the changes in the retinal veins to increased blood-pressure. From the number and freedom of venous anastomoses increase of venous blood-pressure from any local cause is necessarily only temporary. Even in cavernous sinus thrombosis, if the patient lives more than a few days the symptoms of venous stasis begin to diminish.

The condition known as *cyanosis of the retina* is clearly one of venous blood-pressure increased as compared with the resistance of the walls of the veins. In some forms of polycythemia lessened resistance of the wall may be a factor. But in retinal cyanosis, associated with a contracted pulmonary artery and open foramen ovale, we may fairly assume that the enormous dilatation of the retinal veins sometimes observed, is due to chronic high venous blood-pressure present throughout the body. Yet in these cases, as shown by the microscopic examinations made by Baquis, the changes in the veins are chiefly mechanical and passive, secondary to changes occurring in the arteries.

#### INCREASED ARTERIAL PRESSURE.

The ocular symptoms of abnormally high arterial pressure are of general practical importance, especially because they check and supplement the evidence obtained by the various forms of sphygmomanometer. For increased arterial pressure is commonly general, and even when emphasized locally its symptoms depend on general causes. We are not yet able to separate high arterial pressure from pathologic conditions of the arterial walls. In the Appendix to the Reference Handbook of the Medical Sciences, published last year, Bishop discusses blood-pressure under the heading of "Arteriosclerosis," opening his article with the statement: "An exact definition of the term arteriosclerosis cannot be given." The ophthalmologic symptoms of increased arterial

pressure are those of alterations in the vessel walls. Yet they are so intimately associated with increase in the blood-pressure that if they are at all marked, elevated readings from the sphygmomanometer may be confidently predicted.

While this portion of the paper was under preparation a woman aged 46, came for headaches due to hyperopia and commencing presbyopia. There was no history of other disturbance of health, but the ophthalmoscope showed the retinal arteries narrow, irregular in caliber and color, some parts being light, with broad reflex. The changes were rather slight, but so characteristic, that increased arterial pressure could be predicted. The sphygmomanometer gave a reading 165 mm., a pressure distinctly abnormal for a woman at the age of 46.

The ophthalmoscopic changes associated with high arterial pressure have been widely discussed among ophthalmologists during the last few years. They include visible alterations in the vessel walls which are sometimes very striking. The arteries appear narrowed and this narrowing is commonly irregular. The same vessels may present portions that are only one-half the diameter of other portions; and usually the widest parts have not more than their normal diameter. In some cases all the retinal arteries show narrowing. The relatively uniform narrowing of the arteries, along with a change in color, the general color being lighter, and the arterial reflex more brilliant and at least relatively broader, gives what has been known as the "silver wire," or perhaps better, "copper wire" appearance. These changes in the retinal vessels are, to some extent, due to organic changes in the vessel walls. Probably in the beginning continuous spasm of the muscular coat is an important factor. However, more permanent changes commonly supervene, and these we recognize by other departures from the normal appearance.

An extremely important symptom to which attention was called years ago, along with the significance of "the copper wire arteries" by R. Marcus Gunn, is afforded by the alterations of the veins where they are crossed by the arteries. Such alterations include: (a) Narrowing of the vein at the crossing, often associated with some dilatation on the distal side, as though the pressure of the rigid artery had hindered the flow of blood in the vein. (b) Disappearance of the vein on each side of the arterial blood column where the artery crosses in front of it. This, like the lighter color of the arteries, may be ascribed to opacity in the arterial wall. (c) "Kinking" of the vein at the crossing. The vein approaching an artery obliquely does not continue its normal direction across that of the artery, but turns to run parallel to the artery for a little distance and then crosses it almost at right angles; very much as we often see a country road which meets a railroad at a very oblique angle.

The "kinking" of the veins is a most striking, characteristic, and reliable evidence of chronic vascular disease in the retina. It will readily be distinguished from the normal encircling of an artery by a vein, which occasionally occurs. If advanced, the changes referred to may be distinguishable wherever the larger arteries and veins cross each other. But they will not be equally pronounced at all the crossings; and at earlier stages they may be confined to a minority of such intersections. We cannot, however, accept them as abnormal when the appearances described are confined to one or two vascular intersections in each eye.

These alterations of the veins at their crossings are among what de Schweinitz has called "declarative symptoms." They positively declare the presence of vascular disease. Marked permanent irregularities and narrowings of the arteries have the

same significance, so have patches of white or gray in the arterial walls, and specks of hemorrhage scattered throughout the fundus. Slight changes in the color of the vessels, and slight general narrowing of the arteries belong with what de Schweinitz calls "suggestive symptoms." Another suggestive symptom, and one of the earliest to appear, is a discoloration of the optic disk, a haziness with a dirty pink color; suggestive of brick dust.

It is obvious that the discovery of the ophthalmoscopic symptoms of increased blood-pressure, whether these be "declarative" or only "suggestive," should lead to investigation of the arterial pressure with the sphygmomanometer. But it is, if possible, more important that elevated readings of the sphygmomanometer should lead to a careful ophthalmoscopic examination. The normal blood-pressure varies enormously with age, sex, and individual peculiarity. Furthermore, it may undergo marked temporary elevation or depression. Sphygmomanometric readings taken alone are of rather uncertain significance. Even marked coincident symptoms, of cardiac change, or noticeable hardening in the larger arteries, are very inferior to the evidence obtainable with the ophthalmoscope from the smaller arteries of the retina; in arriving at a correct and definite interpretation of a rise of arterial pressure. Even a very moderate rise of blood-pressure accompanying the vascular changes referred to, is of greater and more serious significance than a much higher blood-pressure without such changes.

#### BLOOD-PRESSURE IN OCULAR DISEASES.

Although of chief interest to ophthalmologists, it may help to illustrate the importance of this subject of blood-pressure to refer briefly to certain diseases of the eye more or less dependent upon it. Here, as elsewhere throughout the body, nutrition depends constantly and absolutely upon the capillary blood supply,

kept up by the arterial blood-pressure. Blood-pressure is thus an active, important factor in most diseases. A very striking instance of its importance is furnished in the atrophy of the optic nerve and retina which sometimes occurs after extensive hemorrhage. This may be from trauma, gastric ulcer, uterine or other conditions, but where the only connection with the optic atrophy is through the hemorrhage, and in all probability by lowered blood-pressure.

When the blood-pressure falls to a certain point the intra-ocular pressure tends to render the interruption of nutrition more complete in the eye, than it is in other parts of the body. And the delicate nervous apparatus of the retina cannot have its nutrition interrupted for more than a brief period without serious permanent damage. I have seen a case of amblyopia with acquired red-green color blindness, and vision reduced to 4/12 and 4/22, in which practically normal vision was restored with increased blood-pressure through treatment for cardiac dilatation. It would be interesting to study the connection of the extreme asthenopia connected with phthisis, to which I referred in a paper read before this Society two years ago, with the lowered blood-pressure of this disease. The vascular origin of pigmentary degeneration of the retina, accepted and advocated by Nettleship and others, seems the most probable theory for a group of allied conditions.

The connection of increased arterial pressure with primary glaucoma is a very close and important one. I have seen no case of typical primary glaucoma, since I began to use the sphygmomanometer, in which the arterial pressure was not noticeably increased. Frenkel reported such increase in fourteen out of fifteen cases of primary glaucoma. Greene in his observations at the National Military Home, has never seen acute glaucoma with nor-

mal blood-pressure. I have pointed out that the blood-pressure may furnish an important indication in discriminating between primary and secondary glaucoma. Dunn has called attention to its value in prognosis, and it may well decide for or against a certain line of treatment.

The very intimate association of the ophthalmoscopic symptoms of increased arterial pressure, with those of so-called albuminuric or renal retinitis is a subject worthy of a symposium itself. Equally interesting and extensive is the relation of blood-pressure to the different forms of obstruction of the retinal vessels—spasm, thrombosis and embolism. That a certain portion of cases of retinal detachment depend on increased blood-pressure in the choroidal vessels is a conclusion reached by the latest investigations by Lauber and of von Hippel. Greene has shown increased arterial pressure with senile cataract, but whether the connection is other than that of advanced senility remains to be determined.

The relation of hemorrhage to blood-pressure has been more definitely studied in the eye than elsewhere, and certain facts observed in ophthalmology ought to be carefully considered in connection with hemorrhages in other parts of the body. In the treatment of hemorrhage two absolutely opposed methods have been in common use; one makes an attempt to lower the blood-pressure, even by venesection; the other endeavors to contract the arteries and thus diminish the blood supply of a part, although this must result in an increased arterial pressure. In the eye we have learned that hemorrhage may occur with increased blood-pressure, and apparently depend upon such increase. But we have also learned that in other cases, as pointed out by Dr. Stevens in the paper read before this Society three years ago, and by Dr. M. Black in his paper read before the Section on Ophthalmology of the A. M. A. at its meeting in 1908,



intra-ocular hemorrhage may be associated with abnormally low blood-pressure. A rational explanation of this is that low blood-pressure, like increased coagulability of the blood, favors venous thrombosis, which in turn is the immediate cause of hemorrhage. These observations on the eye indicate that a more exact pathology of non-traumatic hemorrhage may lead to the rational use of these opposing therapeutic measures, each in its appropriate class of cases.

In a general way we may say that the pressure of the blood in the vessels is one of those basic, simple, physical facts so intimately associated with all vital processes, that the study of its relations with pathologic conditions is likely to prove fruitful in every department of practical medicine.

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### *BLOOD-PRESSURE FROM THE NEUROLOGICAL STAND- POINT.*

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BY G. E. NEUHAUS.  
Denver, Colo.

Physiological experiment has shown that local variations in the caliber of the blood vessels, as for instance, that occurring in the abdominal organs during digestion, or the phenomenon of dermographia, are brought about through the action of vasomotor centers situated in the spinal cord; while the center presiding over general vasoconstriction and vasodilation is in the medulla.

The medulla, therefore, regulates arterial pressure as it determines the caliber of the blood vessels as well as the rate of the heart's action.

Arterial pressure in the healthy, young adult male varies between 110 and 120 mm. mercury, the average being about 120—when taken with a broad cuff and the Riva-Rocci or Janeway sphygmomanometer.

This pressure is varied even in health by the various bodily functions, and mental states.

The ready response of the medulla to pathological demands made upon it is beautifully shown in cases of cerebral hemorrhage. Here the presence of a large amount of extravasated blood, within the unyielding cranial vault, increases intracranial pressure to such an extent as to impede the circulation in the medulla and to threaten life by bulbar paralysis. But the vasomotor mechanism becoming operative increases arterial pressure to such an extent that it is enabled to overcome the intracranial resistance. If necessary the bulb will keep arterial in advance of intracranial pressure, driving the former to enormous height, until it becomes exhausted. This takes place before death in fatal cases of cerebral hemorrhage, when we find the pulse small, frequent and feeble.

In these cases, then, high blood-pressure preserves life and the nicest judgment is called for to decide whether the danger of fresh hemorrhage from high arterial pressure is greater, or that of paralysis of the bulb from failure to receive blood; and whether vasodilators and perhaps venesection is called for or not.

When the medulla becomes exhausted, strychnia acting directly on it does not do much good; while adrenalin or perhaps ergot, acting directly on the blood vessels, still may help to keep up arterial pressure.

Although a great deal of work has been done in attempting to make the estimation of blood-pressure a helpful factor in the study of nervous and mental diseases, little that is definite has been brought out.

After all, blood-pressure is much less an indication of the state of the nervous system than of that of the circulation, and as such its determination in cases of nervous or mental disease is important.

Some interesting points bearing on the relation of blood-pressure and the nervous

system should be mentioned. Psychical state produce marked variations, as a rule bringing about an increase in blood-pressure. While in the functional neuroses tension may be normal, it is according to most investigators more apt to be sub-normal.

In alcoholic delirium it is generally lowered by 30 to 40 per cent and therefore great care is needed in the employment of drugs lessening the force of the heart, or acting as vaso-depressants. This low pressure explains why hot packs, which otherwise in excited states are of the greatest value, must be used with great care in alcoholic delirium.

Of blood-pressure in mental diseases we can only say that it is high in the arteriosclerotic insanities, and furthermore, that both the melancholic and the manic forms of manic-depressive insanity show in general a rise of blood-pressure, although formerly it was thought to be low in the manic state. Personally I have found this same general result, though some of my maniac patients gave low readings.

Patients with functional neuroses, whether their blood-pressure is low or normal, show a great lability of arterial tension inasmuch as slight physical exercise or psychic factors produce sharp rises in blood-pressure.

In arteriosclerosis of the nervous system estimations of blood-pressure are to be regarded as of great importance in diagnosis as well as in treatment. Considering the serious results of an apoplectic seizure on the one hand, and the means at our command to forestall such an event on the other, we cannot be too alert to recognize arteriosclerosis.

When slight dizziness increased by exertion, irritability, anxiety and morbid fears—a symptom complex resembling neurasthenia—are present in a patient past the middle of life who has in addition sclerosis of the accessible vessels the

diagnosis of such a condition affecting the cerebral arteries should be seriously considered, and blood-pressure readings be taken.

Other symptoms of this condition are: Headache and insomnia, a progressive loss of memory especially for figures and for names, an inability for prolonged mental application and slight apoplectic-form attacks in the form of transitory monoplegias, aphasias or paraplegias. Sometimes a numbness or a weakness of a limb, lasting a variable length of time, but recurring, is complained of.

Neurasthenia or epilepsy, appearing for the first time toward the end of the fourth decade or later—especially if associated with high blood-pressure—should arouse the physician's watchfulness. It must, however, always be remembered that marked arteriosclerosis of the cerebral vessels may exist without evidence of such a condition in any of the other arteries, or even without much rise in blood-pressure. A single reading, though, should never be considered sufficient.

In the treatment of this condition, unless the patient's heart labors or unless there are present ominous symptoms on the part of the cerebral circulation, I think it as unscientific to administer vasodilators, just because we find hypertension, as it is to give antipyretics to a patient with a temperature which he otherwise carries well. These patients have a certain amount of narrowing and loss of elasticity of the blood vessels and the higher blood-pressure means a new adjustment of the circulation, and is needed to supply blood to the tissues in spite of greater peripheral resistance.

There are, however, other important indications to be met. If the patient has been working under high pressure he must, if possible, take a rest of from four to six weeks; or, if this is impossible, as it often is, his work must be cut down.

These patients are very often hearty eaters and therefore their daily allowance of food must be reduced—at first to not more than 2,000 calories, while later 2,200 to 2,500 may be permitted.

Coffee, strong tea and tobacco had better be forbidden entirely; all these raise blood-pressure and have been shown by experiment to produce degeneration of the heart and blood vessels directly.

Alcohol even in small doses has been shown to increase blood-pressure and therefore it is contraindicated—entirely aside from the question whether it has an active share in the production of sclerosis, as is maintained by most observers, although it has lately been denied.

A course of salines—for a week—will be found a very active agent in relieving tension.

I believe we have in iodine, if used early and in proper doses, a remedy of the greatest benefit in arteriosclerosis. Erlenmeyer claims it is curative in the early stages, and it seems that experimental arteriosclerosis from adrenalin can be prevented if iodine is administered at the same time.

To be effective, increasing doses must be given, as the body readily adapts itself to the iodine, which becomes then inactive. From 5 to 10 grammes (75 to 150 grains) daily are needed, or even more, and should be continued for at least 3 months.

Unless there is dyspnoea, or the danger of a cerebral accident imminent, I prescribe moderate exercise. It is true that it raises blood-pressure slightly, to a marked extent only if carried to the point of fatigue or involving great effort, but the benefits derived are so important that I should not do without it except for very grave reasons. These benefits are: Metabolism is stimulated, the blood forced from endotoxins, and as about one-third of the entire mass of the blood is

in the skeletal muscles, circulation is materially aided.

When the patient returns to work he must be instructed to work under less pressure to lead the simple life, but we must admit that under the stress of having to make a living all factors leading to increased vascular tension cannot be avoided. An entirely inactive life, were it possible, would be the worst possible thing for the patient, as it very often only leads to a more rapid deterioration.

If some serious cerebral lesion threatens, or if arterial pressure is extremely high, then our treatment must be different, the reduction of high pressure becomes the first indication.

The patient must be placed to bed at once. Vaso-dilatants, as sodium nitrite, in doses of gr.  $\frac{1}{4}$ —4 every 3 or 4 hours. or a freshly made 1 per cent solution of nitroglycerin in II-V min. doses and a brisk purgative should be given.

Drug treatment can be aided by physical means of treatment. Baths of about 98-100 degrees F., continued for 15 or 20 minutes, will reduce arterial pressure by 10 per cent.

Exposure to sunlight will do the same as was first shown by Apelt. In my own experience it has been possible to reduce arterial pressure from 200 mm. to 180. with an accompanying amelioration of dizziness and headache by a sunbath of 15 to 20 minutes' duration.

Has the patient once been brought safely over the danger point he must still be kept in bed for a time, and then the treatment outlined above carried into effect.

#### DISCUSSION.

Dr. Edward W. Lazell: The excellent paper of Dr. Gilbert has so thoroughly covered the subject from a medical standpoint that it leaves very little to be said. There are some points that I would like to call attention to and others to emphasize. The first point is that the distribution of arteriosclerosis itself has much to do in determining whether or not there is a rise of arterial pressure. For instance, cerebral arteriosclerosis does not give us an increase of the

general blood-pressure unless arteriosclerosis of the peripheral system is present, or unless there is an arteriosclerosis or contraction of the vasomotor system in the splanchnic area. Arteriosclerosis of the peripheral system does not necessarily give us a hypertension unless there is also arteriosclerosis or contraction of the vasomotor vessels in the splanchnic area.

The question of insomnia has both a medical and a neurological aspect, and we find that insomnia is due many times to one of two causes: First, hypertension, and second, lowered tension—and I have had occasion quite recently to prove very conclusively that the lowering of the arterial pressure in a person suffering from insomnia was the means of bringing an amelioration of the patient's trouble. In relation to the surgical aspect, I wish to call attention particularly to the increase of blood-pressure whenever any of the ductless glands were included in the operation. To go back to Dr. Cohen's paper: Operations upon the thyroid, operations upon the base of the brain, where the hypophysis cerebri might be included, in operations upon the kidney and the testicle, upon the prostate gland, upon the organs of the pelvis, including, of course, the various ductless glands, were almost invariably followed by a rise of blood-pressure. This is a practical point, in view of the fact that when we come to consider an increase of blood-pressure we find it a hard thing to bring about in a patient. One may give the patient digitalis or strophanthus, or many of the other drugs at our command, but we have no sure way of raising the arterial pressure by drugs. On the other hand, if one gives a patient suffering from malnutrition, epilepsy or some of the allied states, preparations of the biological products which have recently been put at our command, namely, thyroid extract, thymus extract or adrenalin—which is perhaps the best vasomotor constrictor we have; or if one prescribes ovarian extract or testicular extract, one may bring about a rise of blood-pressure.

Just how far we are able to go in this matter at this time is not certain. The law Cushing has laid down so concisely, that the general blood-pressure in all head injury cases and in all tumors of the posterior fossa of the skull, is dependent upon the integrity of the medulla, or still further upon the integrity of the blood supply of the medulla, is a case in point. It indicates the valuable help that the surgeon and neurologist will get from estimations of the blood-pressure in cases where the skull is opened for the operation of cranial tumor, especially those located near posterior fossa, in the cerebellum, in the pons or medulla, and especially in meningeal hemorrhage of the brain, which comes on quickly. These conditions usually increase the intra-cranial pressure, which may produce local anaemia of the medulla, and the increase in blood-pressure is a protective measure to supply blood to the vital centers.

The point is made that one injection of saline solution does not permanently increase the blood-pressure. I think we have all seen that. I wish to point out, from the surgical aspect of the matter, that it is only when you give a very weak solution of adrenalin in saline, say one

to fifty thousand or one to one hundred thousand and continuously and intravenously, that blood-pressure is permanently increased in cases of extreme surgical shock.

From a neurological standpoint perhaps one of the greatest uses of the blood-pressure apparatus is in the diagnosis of threatening cerebral hemorrhage, of the arterial type. In a patient with a blood-pressure of 170 or 180 mm. systolic, a patient of advanced years with cardiac dyspnea, with insomnia or headache, the use of the blood-pressure apparatus helps us to determine the indication for all of those things which favor a low blood-pressure. I believe that at this time a whole session might very well be devoted to the argument of the reduction of blood-pressure in these cases alone. Sufficient, however, to say that the neurologist and the internist will find great use for this instrument in all of these cases.

From a purely neurological standpoint, and going back to the work of Janeway, published some years ago, we find that he makes the statement that Crile had recently found that the lightning pains of tabes were followed or accompanied by a lowering of blood-pressure, and that the gastric crises were accompanied by a hypertension. This becomes of practical moment in that, when we have a patient with a gastric crisis in tabes, the old treatment of giving morphine, which has no influence at all upon the blood-pressure, should be supplanted now, perhaps, by the use of chloral which controls the pain and also reduces the blood-pressure at the same time. I have had, quite recently, occasion to prove that two cases of gastric crises in tabes got more relief from the use of chloral than from the use of morphine. Whenever the lightning pain comes on during a gastric crisis in tabes the blood-pressure is lowered and the patient has complete relief from the gastric crisis. In cerebral hemorrhage of the type that we see following accidents, not from arteriosclerosis, we find the highest increase of blood-pressure amounting to 300 mm. of the Riva-Rocci, and something like 270 points with this instrument (Faught). If the hemorrhage continues, the tension goes still higher. When one gets a high blood-pressure the still further increase of the blood-pressure shows that the validity of the medulla is being seriously interfered with, and an operation is, perhaps, indicated. A sudden fall of blood-pressure after this puts the patient in extremis, and we will probably lose him.

As I have before pointed out, fractures of the posterior fossa near the cerebellum and injuries and tumors of the cerebellum are more liable to be accompanied by hypertension than those of the other two fossae.

In the diagnosis of uraemic coma we also have an increase of blood pressure. In those cases of uraemia or in traumatic cases with kidney involvement, where we find the patient unconscious and bruised, the subject of an injury, the important question to determine is whether the man has a fracture with intracranial hemorrhage or whether he has uraemia. Practically it is only when we get a very great increase of the hypertension (say 250 to 300 mm.) that the probability of

a cerebral hemorrhage outweighs that of uraemia. In the differential diagnosis between cerebral hemorrhage and cerebral thrombosis, which is a very common diagnosis, I would like to call your attention to the fact that after seventy cerebral hemorrhages are rather rare, and generally speaking we almost always have to do with cerebral thrombosis. In at least a large percentage of the cases we find the blood-pressure apparatus of great help for the reason that cerebral thrombosis is accompanied and favored by a low tension, whereas hemorrhage is favored by the high tension. This becomes of practical moment when we undertake to treat an intra-cerebral hemorrhage. If one has to do with a cerebral hemorrhage and increases the blood-pressure, or if one has to do with a cerebral thrombosis and reduces the blood-pressure, one certainly can be doing the patient no particular good.

Tumors are said to cause, generally speaking, no increase in blood-pressure for the reason that tumors usually grow so slowly and include the brain tissue so gradually that there is not an increase of cerebral pressure. I have quite recently proved to my own satisfaction that this cannot be relied upon as a constant point in the diagnosis.

Paresis is accompanied by a reduction of pressure except during maniacal attacks. I have had occasion in the last six months, and especially since I knew that I was going to be called upon to open the discussion on this paper, to make nearly a thousand blood-pressure observations with this apparatus, in fact 960 in all classes of cases. I wish to call attention to the fact that the dementia, known as secondary dementia and the dementia following epilepsy, is accompanied by a very great reduction of the blood-pressure, and it is my belief at this time that so-called secondary dementias are due to cortical degeneration as a result of the reduction of blood-pressure.

Contrary to what one would expect in melancholia, except in the chronic form, we find an increase of blood-pressure amounting possibly to 160 mm. and some authors have gone so far as to believe that the psychic pain is due to the increase in blood-pressure. This, of course, is invalidated by the fact that in any arteriosclerosis, as from or accompanied by nephritis, with hypertrophied heart, we do not have psychic pain, and in senile dementia with a hard artery we do not have the psychic pain either.

In mania we have a reduction of blood-pressure. This is fairly consistent with the degree of activity. I quite recently had occasion to prove, to myself at least, that in delirium tremens and in some of the other so-called acute toxic states, as in pneumonia, that the blood-pressure is reduced. I should like to refer back and call your attention to an article published in the *Journal of the American Medical Association* some time ago, where there was an analysis of a thousand cases of delirium tremens, wherein the most efficacious treatment was that with ergot. Whether or not the benefit to the patient in these cases was due to the increase of blood-pressure from the ergot—if er-

got does cause such an increase of blood-pressure—is an open question.

In circular insanity we find the blood-pressure varying according to whether the patient is in the depressed stage or the maniacal stage. I have spoken of melancholia and mania as two separate diseases, and those of you who make the classification of maniac-depressive insanity, and follow Kraepelin, will understand that the words melancholia and mania are synonymous with the increased and depressed phases.

Epilepsy through the convulsion and during the muscular activity, is accompanied by a rise of blood-pressure. When the patient is in post epileptic dementia, the blood-pressure is low. I would like to say that in a case recently seen with a diagnosis of epileptic dementia I was quite able to prove that the patient was suffering from a dementia due to the low blood-pressure, and that the administration of thyroid extract was accompanied by an increase in blood-pressure with a return of much of the patient's mental activity, to the great satisfaction of the family.

Neuralgia and all forms of pain are accompanied by a rise of blood-pressure. Neuropathic individuals respond to a greater degree than do normal individuals to the excitements and to the depressing influences of life, and, as a result we find that their blood-pressure is more easily increased and decreased than in the normal individual. I do not agree, however, with the statement in the books that neuropathic individuals have a continuously high blood-pressure.

The practical use of the instrument during operation at the surgeon's hand is a great one. I believe that in all those cases with a systolic blood-pressure of less than 80, chloroform is absolutely contra-indicated, because it still further decreases the blood-pressure, and I have had occasion to ask the anesthetist, much against his desire, to give ether from the very start. Ether, in the stages of excitement, increases the blood-pressure, as has been already stated, and I have found that it quite rapidly falls to normal after the patient is completely under. I would like to call attention, further, to the fact that surgical shock is more readily induced in neurotics than in any other class of patients. I believe that the ease with which surgical shock is produced in these patients goes hand in hand with the amount of general vasomotor disturbance the patient has.

I would like to say one word more; the statement found in Osler that hypertension is one of the earliest symptoms of interstitial nephritis has not held true in my experience except in the arteriosclerotic form, where it may well be assumed to be a part of the sclerosis of the abdominal vessels. In some cases of apparently acute Bright's disease, where the diagnosis at the time was not certain, the final diagnosis was an interstitial kidney. These were not accompanied by a rise of blood-pressure, and in no case of Bright's disease of the interstitial type have I been able to find an early increase of tension except in those cases where one could very readily prove that the patient had a peripheral arteriosclerosis by examination of

the peripheral vessels, or in those cases where arterial sclerosis was not evident in the retina on ophthalmoscopic examination. My point is not to criticize Osler, but to try to correct the prevalent idea that the hypertension is due to the sclerosis and contraction of the kidney vessels by increasing the peripheral resistance.

**Dr. E. T. Boyd:** Mr. President and Gentlemen. To have been told the relationship of blood-pressure to dementia and to have some of Osler's statements contradicted, amply repays me for having come to Estes Park.

Cardio-vascular diseases are increasing and ere many years shall have passed they will be the principal cause of death, and we will more fully realize the truth of the statement of Osler that "A man is only as old as his arteries." The paramount significance of our subject can scarcely be appreciated today but a glimmering of that which is to come and for the purpose of contributing our mite to combat it, prompts us to take it up for investigation. In doing so, the fact that in the retina of the eye we have end arteries and that they may be examined with such ease and accuracy and thus lend themselves for study, at once impresses us with the importance of this particular branch of the symposium, namely, "Blood-Pressure from the Ophthalmological Standpoint."

Eye lesions of lowered arterial pressure are not specially characteristic or numerous; in a number of patients with sphygmomanometric readings ranging from 80 to 100 mm. I have been unable to find anything ophthalmoscopically to indicate the low arterial tension.

I recall having seen flattening of the retinal veins, referred to by Dr. Jackson in a case of acute hemorrhage; in this case the flattening was no doubt due to diminished blood-pressure from decrease of the volume of blood, leaving a relative increase of intra-ocular pressure.

High arterial pressure is probably a forerunner, an accompaniment, and exists at the finish of arteriosclerosis and it is primarily because of their relation as cause to effect that the changes in the fundus of the eye, so graphically portrayed by Dr. Jackson, should be recognized at the earliest possible moment.

Much can be done to increase low arterial pressure by means of diet, medication, mode of life and place of living, but thus far little can be accomplished in permanently reducing high arterial pressure and that little depends upon its early recognition.

Dr. Jackson says that normal blood-pressure varies enormously with age, sex and individual peculiarities—all very true—but there is another element not reckoned with, and it is altitude. Careful estimations made at Leadville with a Riva-Rocci instrument show, speaking broadly, that the general reading for men under 40 years of age is 114 mm. This would seem to indicate that great altitude would prove a valuable adjunct to the regulation of diet, d'Arsonval current, etc., for the reduction of blood-pressure.

Venesection of from 8 to 16 ounces of blood will often reduce the arterial pressure from 200 or 240 mm. to 150 or 170 mm., depending upon the age and condition of the patient. The ad-

visability of resorting to this method before operative procedure in certain diseased conditions of the eye, I believe was first published by L. Webster Fox.

If we can carry home the mental picture of arteriosclerosis as revealed in the eye and recognize the necessity of having an ophthalmoscope and a sphygmomanometer and a working knowledge of the instruments, we will at least be able to predict serious trouble for some of our patients far in advance of its appearance.

**Dr. E. C. Hill:** During the past four years I have kept systematic records of most of my chronic office cases, including the blood-pressure records, and I will give you a few of the principal points which I have observed myself, for what they may be worth.

First, I have noticed that neurasthenic patients have a low blood-pressure as a rule, while those who feel rather buoyant have generally high blood-pressure, and I presume this is one reason why the neurasthenic patient feels better as the day wears on, because his blood-pressure rises through exercise and eating. Another thing that I have noticed is the compensatory action of the vasomotor system as regards the heart. We have here, as everybody knows, very commonly primary dilated heart, especially in those who overwork, or those who have lately come to this altitude. This primary dilation of the heart is compensated somewhat. I should say, at first, until they become acclimated, as in Dr. Boyd's cases, by a rise in the blood-pressure, and it is really very interesting to notice the decrease in blood-pressure with the giving of strophanthus, which does not ordinarily raise blood pressure; or even sometimes giving digitals.

Another important point, I think, is that every individual has a certain normal blood-pressure, which is not the same necessarily as other individuals. This is particularly noticeable if they have some disease. For instance, the normal, the pathologic normal, if you may call it so, of a renal case, is considerably higher than that of a person who has no kidney disease. It is a bad plan to try to reduce this to the so-called normal of the text books, the 140 mm., say, for a man of middle age, or 125 for a woman.

If we reduce the vertigo and the severe headache in the chronic renal case, for instance, we have done enough.

Another point is the variability from time to time of blood-pressure. For instance, a case that I saw last fall of general vascular disease, with blood-pressure of 150 mm., which I treated for a little while, and who improved at the time, did not see me again until the beginning of June of this year. Last fall he had a pressure of 150, as I said; and this spring, of 85 only. At the time he came in this spring he had paresthesia of the left hand, especially the little finger, and some pain there, and of course he thought it was rheumatism. I put him on strophanthus and digitals and warned him about the condition. I went away to Seattle, and he died ten days later of what seemed to be a cardiac thrombosis; that is to say, he had marked cyanosis and dyspnea without any dropsy or pulmonary edema, and without any mental symptoms whatever.



The chief practical value I have found of the blood-pressure instrument is in the early diagnosis of kidney diseases. We frequently find a really high pressure before we get any albumin or casts in the urine.

In the matter of heart diseases, I think it is a good idea to make it a practice to always have the pressure taken sitting, then have the patient, still with the band on his arm, walk to the back door three times, and take the pressure again. If he has a normal heart, normal muscular tone, you will find that the systolic blood-pressure comes up five or ten points. If he has a weak heart muscularly without valvular disease—and very commonly they are without valvular disease—the blood-pressure will not be raised to that extent, and may even be considerably decreased. Such cases are in great danger and need careful treatment.

Now just a very few words as to what I have found good in treatment, of which little has been said so far. The hygienic and dietetic treatment is far more important I think than any medicine we can give; especially in the case of low blood-pressure, moderate exercise and stimulating foods, coffee, for instance, and cold baths, beginning with a sponge bath with salt in the water. We can somewhat raise the blood-pressure by such medicines as quinine, caffeine, strychnine and ergot, though I use them but little. The high pressure cases are more readily relieved, I should say, by calomel salines to prevent constipation, but sodium nitrite, particularly in the case of elderly subjects, half a grain three or four times a day on an empty stomach, is most effective here, particularly for those advanced in years. For younger subjects give ten minims of tincture of aconite U. S. P., which is equal to 20 drops, about four times a day at first. With these medicines we can do a great deal to relieve high tension cases and to prolong their lives. But the real treatment of many of these individuals should have been begun five to twenty years before we get them.

**Dr. George A. Moleen:** It is certainly noticeable that we have an increasing number of clinical diagnostic aids. It is also noteworthy that with the introduction of them they come in with a very full tide, and after a time the tide of the enthusiasm ebbs and we get what is left. We have reached that point with a good many diagnostic aids, and I think this is true of the X-ray where we can see pretty marked evidence of the low ebb. This is virtually true now with the blood-pressure. It is true I know with blood counting. Its importance has fallen. And I do not think I misstate it when I judge the importance of blood-pressure to be somewhat on the ebb; but we are getting nearer the truth of the value of blood-pressure estimations as an aid to diagnosis. The cases of increased blood-pressure have been touched upon. It has been mentioned as a part of the cause of arterial sclerosis together with toxemia. As I have said before, when it is a case of arterial sclerosis of either variety, it is most common to find an increased blood-pressure.

Another point is the error in the reading of the various instruments and the variability of the determinations by reason of the different

instruments. I believe Dr. Gilbert has stated the diastolic pressure of this instrument to be after the pulse-wave has subsided. In the circular which accompanied the Faught apparatus, when it first came out, it was stated that the time of greatest fluctuation after the pulse could again be felt at the wrist with the maximum fluctuation indicated the diastolic pressure. A moment's consideration will show that that should not be the case, and, as a result I wrote to Dr. Faught and received a reply to the effect that it was the lowest point reached during the maximum fluctuation of the column which indicated the accurate diastolic pressure of the blood.

At the present time I think that we can say that blood-pressure is of more prognostic than it is diagnostic value in the main. I think today when you find blood pressure mentioned in any of the diagnostic works, you find that that point is mentioned particularly, and stress is laid upon the range rather than the high pressure or the low pressure, but the range between the two as being of the greatest importance.

I think the neurologic importance of blood-pressure centers largely in the vascular lesions of the brain, where we have to do with arterial sclerosis and its effects in the two forms, the diffuse and the nodular. High blood-pressure with a low rate of flow in a diffused sclerosis would favor thrombosis formation. The nodular form, as described by von Bergman, is likely to produce hemorrhage, hence the prognostic significance.

The fact mentioned by Dr. Lazell of lightning pains producing a diminished pressure, I think was pretty well shown, also in Dr. Cohen's paper, where all of the irritant and painful influences diminished the blood-pressure, and this disappeared when the nerve was cocaineized, so that I think that would come under the general heading of a diminished blood-pressure due to the stimulation of the pain.

In regard to dementias, I would hardly agree with Dr. Lazell that dementias would be characterized by a low pressure, or that the cause of secondary dementias was low blood-pressure. These secondary dementias follow a mania melancholia, epileptic insanity, paranoia, insanity as a result of softening after a vascular lesion, etc., and it would hardly be fair to presume that the low blood-pressure could account for all of those conditions in the presence of mental deterioration at the same time. It would, however, be reasonable to believe that low blood-pressure would necessarily follow a lowered mental activity, since rest is always conducive to a lower blood-pressure, and certainly in dementia there is not much else but rest, and very little excitement.

**Dr. H. G. Wetherill:** The consideration of an important topic like this would be incomplete without some reference to the significance of the blood-pressure in its relation to certain obstetric diseases, and perhaps even to normal obstetrics. We know what the clinical symptoms of eclampsia and of yellow atrophy of the liver and of certain toxemias (drug toxemias) may be. But in threatened eclampsia I am convinced that a systematic observation of

blood-pressure with a good instrument, will give us warning of impending difficulty long before other means can possibly do so. We know that high blood-pressure often antedates the appearance of albumin in the urine in threatened eclampsia. I believe the time has come, notwithstanding the somewhat pessimistic remarks of my predecessor, when in this particular disease at least, and perhaps in all pregnancies, it may be wise not only to make a systematic examination of the urine, as the careful man does today, but to make systematic observations with the blood-pressure apparatus. It may even be desirable to send our patients to some individual, like Dr. Hill, who is prepared to keep tab on the urine and on the blood-pressure.

At the meeting of this Society last year I cited a case in which the eye symptom, to which Dr. Jackson has alluded, antedated by many weeks the appearance of albumin in the urine. The blood-pressure, not being taken with an instrument, was notwithstanding evidently very high. This woman had neuro-retinitis and retinal hemorrhages; she went on to convulsions and coma, and presented a typical toxemia of pregnancy from which she, happily, recovered. I am convinced that had the blood-pressure been systematically taken in that particular instance we should have had ample warning of this impending difficulty long before it occurred.

For this state of affairs I know of nothing which meets the emergency like bleeding, and if necessary, where the toxemia is intense, even blood washing, that is, taking large amounts of blood and filling the veins with normal salt solution.

Chloroform has been spoken of by two of the gentlemen who have participated in this discussion as having the effect of lowering blood-pressure. In eclampsia chloroform has been the stock remedy for years to control the convulsions, and apparently with very little toxic effect, but in my opinion, chloroform has its dangerous side when so used. We are beginning to appreciate the late toxic effects of chloroform, and I am not sure that the free and unlimited use of chloroform under those conditions can now commend itself to the profession. I am inclined to believe that its use should be prohibited or limited.

Dr. C. D. Spivak: Like Dr. Wetherill, I am this afternoon in an optimistic frame of mind, and nothing has given me as much pleasure as the papers and the discussions which have followed. It was only two years ago that I got interested in my own arteries. I was annoyed by arrhythmia, and I knew of no one in Denver to go to except to Dr. Hill, who at that time probably had the only apparatus in Denver for taking blood-pressure. Two years have passed since then, and the subject of blood-pressure has received thorough attention at the hands of the medical profession in Colorado. This in itself is a very pleasant and promising phenomenon. As I said, I had myself some arterial unpleasantness, and after I visited Dr. Hill and he took my blood pressure, I procured an apparatus, and I have toyed with it since. I derived much pleasure from its use and have

made a few scientific deductions. I am connected with a sanatorium which has ninety tubercular patients, and I thought it would be a very good thing to institute the taking of blood-pressure in the patients, thinking, since they are all of the same disease perhaps some conclusions might be arrived at. These examinations have been made upon more than 150 patients, ascertaining the blood-pressure in relation to age, sex and stages of disease. These cases have not yet been tabulated. I do not know what conclusions we will arrive at after they have been tabulated. One thing, however, became very clear to the superintendent and to myself and to several of the other attending physicians, that in all cases of tuberculosis where the blood-pressure is lower than 90 it is absolutely fatal within say two to three weeks. The prognosis could be made without examination at all of the chest of the patient. I have made it repeatedly, and when I had a case with the blood-pressure lower than 80 I could tell with certainty that the patient would die within the next two or three weeks. Other results, as I say, I cannot yet give.

Now, with reference to theories as to what causes high pressure. Theories, of course, as we all know, are of no account. During the last year two German physicians have done a very simple thing, and have found out, apparently, what causes high pressure. At least we can think of no other reason for it. The experiment is very simple and very remarkable. A watery extract is made from a kidney and injected into an animal, and was immediately followed by a rise in the blood-pressure. This experiment they have tried on many animals, and with various kidneys, and they have found the same thing, that a watery extract of the kidney will cause, if injected into an animal, no matter what kidney, no matter what animal, the blood-pressure to rise. They have even isolated the substance that produces high blood-pressure. That was accomplished last year, in 1908. The substance they called renin. Two other men, also in Germany, reported this year, only two or three weeks ago, that they have gone over the same experiments that the other two gentlemen made in 1908, and have performed the work with even greater thoroughness. They have taken each tissue of the human body beginning from the mouth and the tongue and the lungs and the heart, etc., and made a watery extract, injected it into the animals and found that none of the tissues except the kidney, the pancreas and the spleen produced a higher blood-pressure. These three organs out of all the others tend to produce a higher blood-pressure. Extracts from the other organs do not have that effect. Now, of course, all these experiments could have been done by someone in Colorado, by myself. It stands to reason after we have learned so much about using the animal parts for certain purposes that these experiments do not cost very much. The two journals reporting about renin did not say anything about the therapeutic application of that substance to diseases, but it seems to me that probably in the near future renin will be produced in the same way as now all other animal products are, and

they will be on the market and in cases of shock we might avoid the necessity of opening the abdomen and introducing hot water, as suggested by Dr. Hopkins.

The personal equation is the thing that bothered me very much. I used to make these blood-pressure examinations at the sanatorium with the assistance of the superintendent, and each examination was controlled by him, and I found that we never could agree; there were always 4 or 5 mm. difference between my reading and his reading, and it would therefore seem that there should be an instrument devised which would mechanically and automatically register the time when the pulse is absolutely lost and the time when it begins again, and also register the systolic and the diastolic. Until that time we will not have a complete and absolutely correct reading.

Dr. W. W. Grant: It is true, as shown by vital statistics, that disease of the vascular system has caused a steadily increasing number of deaths in the last twenty-five years; just as in the same proportion the mortality has decreased from some other diseased conditions such as tuberculosis, typhoid fever and other diseases which are affected by hygienic and sanitary conditions. There is no value to scientific experimentation unless we can reduce it to practical results. As a matter of fact the blood-pressure theory at the present time occupies very much the same position, with practical surgeons, that the opsonic index does. They are both of scientific interest, but at the present time neither is of much practical value. This is a truth which I think all experienced surgeons and clinicians must admit, and until we can bring to bear and to test our scientific instruments and experiments by common sense and clinical observation at the bedside, we will derive from them no great practical benefits.

Blood-pressure, like the opsonic index, changes so frequently and greatly in both health and disease, under varying conditions, that the test is yet of little practical value to the experienced clinician and surgeon at the bedside and on the operating table.

Dr. H. M. Cohen: After the enthusiastic discussion that this subject has evoked, I am hardly warranted in dampening your ardor, but I wish to tell you about a conversation recently held on this subject with Dr. Charles Mayo, of Rochester, Minn. I asked him his idea of the use of blood-pressure in surgery. He replied as follows: "Many years ago, it occasionally happened that an operative case would be referred by some physician, who desired to assist in the operation. If we were afraid of his sepsis, his station would be at the end of a retractor with a handle three feet long. But now we do not find this necessary. We give him the blood-pressure apparatus and instruct him to take the blood-pressure every five minutes." On the other hand, a few days later, during the performance of one of his thyroidectomies, I asked Dr. Mayo how he determined whether he would use local or general anesthesia in this class of cases, and he replied that when the blood-pressure was under 110 mm. mercury, he always employed local anesthesia. This attitude, at least shows that blood-pressure records are not neglected.

Dr. George A. Moleen (Presiding): Before closing this, I feel like stating in defense of my own position—and I wish Dr. Wetherill were here to hear me—that I asked the committee to put this symposium on the program in view of what I thought of its great importance. I intended to convey the idea, when I spoke, that this subject was seeming to take the trend of being more valuable as a prognostic than as a diagnostic assistance, I was not so pessimistic in my view of its value, but rather that its importance was in another direction. Dr. Gilbert will close the discussion.

Dr. Gilbert: It is getting late, and I think the ground has been so well covered that it is hardly worth while to say anything further. I certainly appreciate the active discussion which has been given by the members.

## New Members

A. Trassbach, 723 Tejon street, Colorado Springs.

Robert M. Marshall, Stedman Bldg., Denver.

Z. Von Dworzak, Mack block, Denver.

G. P. McKenney, 1441 Glenarm Place, Denver.

C. B. Ingraham, 1405 Glenarm Place, Denver.

J. R. Roe, Commonwealth Bldg., Denver.

J. B. Ham, St. Joseph's Hospital, Denver.

A. J. Markley, 1441 Glenarm Place, Denver.

A. L. Burnett, Silverton, Colo.

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## NOTICE.

Each copy of the January number of COLORADO MEDICINE should have contained a picture of Dr. Leonard Freeman, president of the State Medical Society, opposite the editorial page. By an oversight it was omitted from a considerable number, but we trust all subscribers who did not find it in the journal have since received the picture by mail.

# Progress of Medicine

## INTERNAL MEDICINE.

Edited by

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Associate Prof. of Med., University of Colorado.

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### TUBERCLE BACILLI IN THE CIRCULATING BLOOD—AGAIN.

Burvill-Holmes, of the Henry Phipps Institute of Philadelphia (*Amer. Jour. Med. Sci.*, Jan., '10), gives a resumé of all the reports pertaining to this subject, which he has been able to find, since Rosenberger's announcement of his work, more than a year ago.

He next appends a statement of the results of his own work: Forsyth (*Brit. Med. Jour.*, Apr. 24, '09) reports the study of twelve cases, with positive results in ten. Burnham (*Brit. Med. Jour.*, 1909, i, 1001), and Lyons (*Jour. Amer. Med. Assoc.*, 1909, liii, 731), detailed their observations in ten cases—negative in every instance. Schroeder and Cotton (*Bulletin No. 116, U. S. Dept. of Agriculture*), published the results of their studies of the blood of forty-eight tuberculous cattle, with findings uniformly negative. Mohler (*Ibid*), carrying on an independent investigation, examined the blood of eight tuberculous cattle with negative results. Ravenel and Smith (*Jour. Amer. Med. Assoc.*, 1909, liii, 649) state that they have examined the blood of eighteen cases, and have been unable to demonstrate tubercle bacilli in any of them. Petty and Mendenhall (*Ibid*, 1909, liii, 867), studied ten cases, only seven of which were tuberculous, and in all of them bacilli were demonstrable in the blood. One case of axillary adenitis, presumably tuberculous in nature, but subsequently shown by the pathologist to be sacromatous, gave a negative result. The two remaining cases, it is to be inferred, were cases of enteric fever; but in both of

them acid-fast organisms supposed to be tubercle bacilli were found in the blood.

Hewat and Sutherland (*Brit. Med. Jour.*, Oct. 16, 1909), made twenty-two examinations of twenty tuberculous individuals, and in one case only were they able to demonstrate acid-fast organisms. However, in repeating the examination of the patient's blood in which two acid-fasts were found in the initial test, it was negative, which led the authors to believe that the presence of the organisms was due to incidental contamination. Anderson (*Bulletin No. 57, Hygienic Laboratory United States, P. H. and M. H. S.*) examined the blood of forty-eight cases of human tuberculosis, together with thirteen guinea-pigs and eight rabbits experimentally infected by the Rosenberger method. Of these, but one, a case of human tuberculosis, revealed acid-fast organisms in the blood specimen; but inasmuch as guinea-pig inoculation was negative, Anderson does not think that the organisms found were tubercle bacilli. It is of interest to note that in three of the rabbits cultures were successfully grown from the blood, and this in face of the fact that it was impossible to demonstrate the organisms by smear in the blood of these animals.

Burvill-Holmes then gives the results of his own findings in fifty-six cases studied by him. These included almost every variety and stage of tuberculosis, also one case of bilateral pneumonia and two of epidemic cerebrospinal meningitis. Rosenberger's technique was followed closely in the first fifteen cases, but at that time Pappenheim's stain was abandoned in favor of acid-alcohol as a decolorizer and borated Methylene as a counterstain, on account of the former giving so many confusing artefacts—some of which were difficult to distinguish from tubercle bacilli. After it was abandoned, no such bodies were found. Five cases gave positive results, and strange to say, three of these

were not cases of tuberculosis, two being epidemic cerebrospinal meningitis and the other senile bilateral pneumonia. One of the remaining ones was a case of miliary tuberculosis and the other a suspicious case of incipient tuberculosis. In no case was the organism, which was found, morphologically typical. Furthermore, seventy-four guinea-pigs were inoculated from the series and none of them developed tuberculosis—glandular or otherwise.

How are these opposing results to be reconciled? Brem was led to suspect the water from which he made his stains and solutions, and he was finally able, when he fixed the sediment from distilled water with albumin, to demonstrate acid-fast bacilli in every specimen examined. The author was unable to demonstrate the acid-fast bacilli in the water he used at the Bryn Mawr Hospital until he used an albuminous fixative.

He concludes that tubercle bacilli do not regularly circulate in the blood, but they may occasionally do so, as demonstrated by Liebermeister in his inoculation experiments. —O. M. G.

#### ANTITYPHOID INOCULATION CONDUCTED AT THE MASSACHUSETTS GENERAL HOSPITAL.

Spooner (*Boston Med. & Surg. Jour.*, Jan. 13, '10) stimulated by the successful work of the Royal Army Medical Corps (of Eng.) in producing immunity to typhoid, in the soldiers; tried it at the Massachusetts General Hospital during the past year.

The typhoid bacilli were grown for 24 hours on agar slants, washed in sterile tubes, thoroughly shaken, and counted by the Zeiss blood platelet counter. They are then exposed in water-bath to a temperature of 53 degrees C. For one hour, diluted with the necessary amount of salt solution and sealed, after having added .25 per cent lysol to prevent contamination. He began with the small dose of

50 m. with the hope of avoiding the severe reactions which were sometimes gotten by the Royal Army Medical Corps. As there is a decided morbidity each year from typhoid, among the house officers, nurses and attendants, in the hospital, it was thought to be wise to begin inoculations in July, in order that immunization might be completed before the onset of the autumnal epidemic.

It was obviously impracticable to rely upon decreased morbidity alone, for criteria, as the uncertainty of infection is too great, and the number ordinarily infected too small. Consequently he made use of the determination of the agglutinating power of the blood, before inoculation and again at various stages of the immunizing process.

The initial 50 m. was followed at 5-day intervals by 100 m. and 200 m. Later 300 m. was given as the final dose. In all cases there was local soreness and induration for a few days, and in a few cases there were constitutional symptoms, such as occipital headache, vomiting, and diarrhea, but in only one case was it severe enough to prevent attendance upon duty and then only for half a day. All who showed any marked agglutinating property, due to known or suspected previous typhoid or to previous inoculation were excluded from the test.

In all 103 persons were inoculated. After inoculation 94 per cent of them reacted in dilutions of 1:25 or more, and 80 per cent in dilutions of 1:50 or more. Furthermore none of those inoculated have contracted typhoid.

It is rather striking that this degree of agglutinating power was produced by injection of such small doses of vaccine. Of course agglutinating power and immunity are not necessarily synonymous, but they seem to go more or less hand in hand. The height of immunity was reached in about two or three weeks, and then it began to decline. —O. M. G.

TRICHINIASIS WITHOUT INITIAL EOSINOPHILIA.

Since T. R. Brown reported, in the *Johns Hopkins Bulletin*, in 1897, the occurrence of an increase in the number of Eosinophiles in cases of trichiniasis, the reports have been so uniformly confirmatory that we have come to depend very largely upon it, both positively and negatively, in the diagnosis of this disease. It is true that seven cases have been reported by four observers, in which no Eosinophilia was found, but in four of them reported by Drake, the blood examination was not made until the lapse of months after the onset of the infection, and it was considered not improbable that the Eosinophilia might have disappeared.

Gregg (*Boston Med. and Surg. Jour.*, Dec. 23, '09), reports the case of a boy of 11 years who was under observation and had blood examinations made regularly, but no increase in the Eosinophiles was found until three and a half weeks after the onset of the symptoms and five days after the trichinea had been demonstrated in the muscle. They suddenly increased to 10 per cent and one week later were 15 per cent, and continued markedly increased until the boy left the hospital, practically relieved of all symptoms. This was nine weeks from the beginning of the illness.

This late occurrence should serve as a warning to us not to make a negative diagnosis on the strength of the absence of Eosinophilia early in the disease.

—O. M. G.

GYNECOLOGY AND OBSTETRICS.

Edited by  
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ABLATIA PLACENTAE.

Holmes (*Journal American Medical Association*, November 22, 1908), speaks of the condition as an abortion in the latter part of pregnancy. There is a retro-pla-

cental accumulation of blood which increases the size of the uterus with uterine contractions and a mechanism similar to Schultze's for the third stage of labor takes place. The sole pathognomonic sign is hemorrhage, the amount of which cannot be determined by the visible blood; the relatively concealed type is often the terminal stage of the concealed variety.

Two other signs are corroborative of ablatia placentae, distension of the uterus and escape of serum squeezed from the blood clot. If the blood is entirely retro-placental there may be a local bulging which can be palpated if the placenta is implanted on the anterior uterine wall. There is rather sudden pain, becoming intense, nausea and vomiting, signs of anaemia and unconsciousness. When the diagnosis is made the patient should be delivered at once, manual dilatation preferred to instrumental. Holmes does not advocate Vaginal Caesarean section as the blood conceals the field of operation. When the cervix is dilated delivery is terminated by forceps, version or craniotomy or Caesarean section may be resorted to.

C. B. I.

THE ARREST OF HEMORRHAGE BY ABDOMINAL CONSTRICTION.

Hoehne (*Zentral. f. Gynokologic*, 1909, No. 10), applies Mombert's method of abdominal constriction with an elastic bandage for the arrest of hemorrhage, in obstetrical procedures. Hoehne's first experiments were made on dogs. In one he cut an artery in the thigh from which there was no bleeding; on another there was but slight oozing from a cut into the aorta, and on a third after the bandage had been applied for two and one-half hours, autopsy revealed no injury to the abdominal organs other than small petechiae in the intestinal walls. The method has been tried twice in the Kiel klinik. The first patient being one with an hydatid mole, who, when the cervix was

being dilated, under an anaesthetic, almost bled to death. The rubber constriction bandage was applied and the hemorrhage stopped instantly. The mole was then removed without further loss of blood and the anaemia of the uterus caused it to contract vigorously. The bandage was left on for fifteen minutes. There was pain in the abdomen for one day, the stools and urine were free from blood.

The second case was one of post partum hemorrhage, which did not yield to ordinary measures. When acute anaemia came on the abdomen was constricted and the bleeding instantly stopped. The uterus contracted and the pulse returned. After five minutes the bandage was removed and a sand bag placed over the fundus. The patient's head was lowered and her legs bound. Recovery gradually followed after the removal of the bandage. There was pain in the legs for three hours.

The conditions following labor are especially favorable for this form of treatment. The intestines are high and the abdomen relaxed. If there is not danger to the predisposition of thrombosis, it will be a valuable means of treating severe hemorrhage during the third stage of labor. Further reports on this subject are promised by Hoehne. C. B. I.

#### ARTERIOSCLEROSIS OF THE UTERUS.

C. M. Reese (*American Journal of Obstetrics*, November, 1908), calls attention to this pathological change in the uterine arteries, which is a cause of intolerable hemorrhage from the uterus of greater importance than has been attributed to it. He reports one case of his own, and two seen by other physicians. The diagnosis is made only by exclusion of other conditions and by the microscopical finding of sclerosed capillaries in endometrial scrapings or by sections from such a uterus after hysterectomy.

The hemorrhages from the uterus may be severe enough to endanger life, and Reese believes that no woman between 40 and 50 years of age, who has borne children, and is suffering from frequent hemorrhages should be denied a hysterectomy. C. B. I.

#### SURGERY.

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#### "A SKIN REACTION IN CARCINOMA FROM THE SUBCUTANEOUS INJECTION OF HUMAN RED BLOOD CELLS."

Charles A. Elsberg, Harold Neuhof and S. H. Geist (*American Journal of the Medical Sciences*, February, 1910), worked from the theory presented by Crile that in early stages of carcinoma the blood serum is markedly haemolytic and that, as the disease advanced the properties of the serum disappeared. They, however, argued that with injections of normal blood corpuscles under the skin, there ought to be a larger percentage of positive reactions, because where the amount of haemolysin is small fresh quantities of haemolysin would continually be brought to the cells by the circulating blood and lymph.

*Technique*—The blood from a normal individual is obtained in an ordinary aspirating syringe (within which a glass bead about the size of a split pea is placed) 10 cc. of blood is aspirated and the syringe shaken for ten minutes, thus defibrinating the blood. Then 1 cc. of the defibrinated blood is expressed into each of a number of test tubes, centrifugalized, washed with sterile normal salt solution, and centrifugalized—this process is repeated. Then a 20 per cent solution of washed red blood cells, in normal salt solution, is obtained. Tubes kept on ice 24-48 hours. Five minims of the suspension



are injected under the skin on a spot where there are no visible veins.

**Reaction**—Shows in about five hours after the injection—it occurs as a somewhat irregular oval area—the margin is often surrounded by a whitish areola. The color of the lesion varies from a brownish red to a maroon. The raised area has a slightly boggy feeling. The authors made 684 injections on 432 patients. They divided their classes into four groups as follows:

1. Patients with definite carcinoma (confirmed by autopsy, operation or pathological examination), of 69 cases, 62 gave a positive reaction, i. e. 89.9 per cent.

2. Patients in whom the absence of malignant disease was certain, but suffering from diseases such as pneumonia, tuberculosis, syphilis, leukaemia, Hodgkin's disease, benign new growths, etc., of 335 cases, 307 or 94.3 per cent gave a negative reaction.

3. Patients with possible carcinoma—in whom no positive diagnosis was made before they left the hospital, of 9 cases, 7, or 77.8 per cent were positive.

4. Very advanced and miliary carcinoma, of 11 cases, 11, or 100 per cent gave a negative result.

F. W. B.

#### PANCREATO-ENTEROSTOMY AND PANCREAT-ECTOMY.

Robert C. Coffey (*Annals of Surgery*, December, 1909), presents a preliminary report that is most interesting. As the basis for his experiments, he takes advantage of the fact that *the pancreatic juice will not penetrate the peritoneum and that it travels in planes of connective tissue*. Consequently the chief problem is to provide unbroken peritoneum with which to surround the part of the

pancreas participating in the formation of the operative field. In all, forty operations were performed on dogs, and a most elaborate and ingenious technic worked out. As a result of these experiments, he feels that pancreato-enterostomy and pancreatectomy in the human is practical, and is indicated when communication between the pancreatic ducts and the intestine is impeded or destroyed. The steps necessary for the performance of these operations on the human are reviewed and the special danger points shown.

H. C.

#### EAR, NOSE AND THROAT.

Edited by

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#### PATHOLOGY AND TREATMENT OF RECURRENT QUINSY.

Dr. Robert C. Miles, New York (*The Laryngoscope*, December, 1909), is of the opinion that recurring cases of quinsy are due to lack of sufficient drainage of, and obliteration of the original abscess cavity. The cavity discharges through a lacunae quite a distance above the floor of the abscess, hence is imperfectly emptied. The author has observed cases where the fistulous tracts burrowed into the base of the tongue, high up into the soft palate or down to the hyoid fossae. Some cases are cured by a process of inflammatory obliteration. To effect a cure Dr. Miles dissects the tonsils from the pillars, then with traction forceps and snare, removes the gland. Dr. Wendell C. Phillips in discussing Dr. Miles' article, stated that he "had frequently observed cases in which chronic abscesses remained in and about the basic membrane of the tonsil and which continued to discharge for years, with occasional acute exacerbations in the form of peritonsillar abscesses."

The reviewer has had a like experience to the above, and after enucleation of the diseased glands the abscesses ceased to form.

W. C. B.

**NASAL OBSTRUCTION: EXPERIMENTAL STUDY  
OF ITS EFFECTS UPON RESPIRATORY  
ORGANS AND THE GENERAL SYSTEM.**

Dr. Willis S. Anderson (*Detroit Annals of Otology, Rhinology and Laryngology*, September, 1909), gives his experience in the experiments upon guinea pigs, rabbits and dogs in the complete or partial closure of the nostrils of the animals. Guinea pigs get so little air into the lungs through the mouth that they die within a few hours after the nostrils are completely occluded. Those with closure of one nostril lived from 6 to 30 days. A few for longer periods. Distension of the abdomen from swallowing of the air would become marked within an hour. Seven rabbits with one nostril closed lived on an average of less than 45 days. They lost about half their normal weight before death. Those that lived some months "developed noisy breathing, suggestive of asthma." The author mentions two factors causing death: First, infection as the result of lowered resistance; second, acute dilatation of the heart. The effect of partial closure of the nostrils of dogs is an interesting study. Labored breathing was a constant symptom. The breathing was characteristic of asthma and emphysema. The hair became shorter, thinner and lighter in color. The thinning of the hair commenced over the abdomen and along the legs, then over the back and neck. The skin became wrinkled. The lowered resistance to disease allowed of death from infection. The older dogs showed most resistance. Of 24 puppies born of mothers with one-third of normal breathing space, 2 were found dead, and 3 died within 24 hours; 11 died at intervals from 31 to 93 days. In one litter of

8 pups, 1 was dead born and 7 appeared healthy. When 4 weeks' old they began to lose their hair and skin to wrinkle, and in 61 days from birth all were dead. One point to be emphasized is that interference with normal nasal breathing of dogs has a marked deleterious effect upon the progeny.

W. C. B.

**DERMATOLOGY.**

Edited By  
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**THE RATIONAL TREATMENT OF SYPHILIS.**

W. S. Gottheil (*Post-Graduate*, Jan., 1910), sets forth in a rational manner what should be regarded as the proper attitude of the physician toward syphilis in relation to their treatment and general management.

He regards it as generally accepted that there are but two drugs, mercury and iodine, which have a definite and reliable action in this disease. Arsenic in any form has failed to prove its efficacy.

1. *Mercury and Iodine.*—Mercury is the only definitely reliable drug for the treatment of syphilis in all its stages. Iodine is not curative, but is extremely useful in this as in other diseases for promoting the resolution and absorption of inflammatory products.

2. *Method of Administration.*—Mercury may be given in any of the following ways, his preference being in the order named: Intra-muscular injections of insoluble mercurials, or of soluble mercurials by mouth, by inunction.

*Iodine.*—Potassium Iodide is the most reliable and efficient; the best form of administration is the saturated solution given separately from the mercury; small doses are often less well borne than large doses, and are less effective.

3. *When Should Treatment Be Commenced?*—Just as soon as the diagnosis is established beyond doubt. A local lesion with a positive examination for spiroc-

bacte or a positive Wasserman is sufficient even before appearance of secondaries.

(The latter statement is hazardous and is not a practice which will be either accepted or followed by careful syphilologists).

4. *Duration of Treatment.*—Treatment should be kept up for at least three years, not continuously, but intermittently, with patient always under observation. First year vigorous treatment for six months, then two months' intermission, then four months' active treatment. Second year two periods of four months' active treatment, with two intervals of two months' rest. Third year, two periods of three months' active treatment, with two or three months' rest. Some cases require still further active attention, and all cases will benefit by it.

5. *When Is Cure Complete?*—This is impossible to state positively. After regular and careful treatment for three years, and one year without treatment, and without symptoms, a cure may be reasonably assumed.

6. *When Is Danger of Contagion Past?*—Active lesions are always infectious. All cases may be regarded as dangerous during first two years.

7. *When May a Syphilitic Marry?*—The answering of this question involves great responsibility. In general it may be said that after three years' treatment, and one year further without symptoms, marriage may be permitted.

8. *What Precautions to Prevent Syphilitic Heredity?*—In pregnancy, after syphilis in either parent, it is wise to give mercury to the mother during last four months of term.

Pregnant mothers who contract the disease after marriage should be treated during full term by intra-muscular injections.

—A. J. M.

## Items

Dr. Edward Delahanty was operated upon for appendicitis on January 22d at St. Joseph's hospital. The appendix had ruptured, but the patient is now doing nicely.

Dr. George Stover has been operated upon for appendicitis and is now at his office again. He expects to take a trip to Honolulu.

Dr. P. V. Carlin has been very ill with thrombosis. He has now recovered and expects to take a trip either to Hawaii or Florida.

Dr. Henry Sewall delivered an address before the Denver County Medical Society on Feb. 8th. Subject, "Modern Views on Irregular Heart-beat."

The newly elected officers of the La Junta City Hospital Association are: President, Dr. J. F. Kearns; secretary, Dr. A. L. Stubbs; treasurer, R. A. Steen. Through the strenuous efforts of Dr. Stubbs, together with the generosity of Mr. T. T. Woodruff, who gave dollar for dollar on all moneys collected, the debt of \$2,400 has been wiped out, and a neat balance left in the treasury.

La Junta has been having an epidemic of measles, as well as several cases of diphtheria.

Dr. H. R. Bull, of Grand Junction, has recently returned from Rochester, Minn., where he has been attending Mayo's Clinic for several weeks.

Dr. H. S. Henderson, of Grand Junction, has resumed his practice, after having spent two months in New York attending the Polyclinic.

Dr. Carl W. Plumb, of Grand Junction, has been appointed city physician for the ensuing term.

Dr. J. H. Larson, of Palsade, has been recently appointed health officer, vice J. W. Gottard, resigned.

Dr. H. G. Morgan, located at the Tom Boy mines for the past six months, has been obliged, on account of his wife's health, to return to Indianapolis, Ind.

Dr. P. W. Gibbon takes the practice of Dr. Morgan and will locate about Feb. 1.

Dr. C. N. Potts, a pioneer of the San Juan country and a prominent man in medical organizations of that section, formerly a resident of Silverton, was found dead in his office in Durango on the morning of Feb. 2d.

## Constituent Societies

### BOULDER COUNTY.

The Boulder County Medical Society was called to order by President C. F. Wolfer, with the following members present: Drs. Queal, Spencer, C. Cattermole, Campbell, Gilbert and Jolley.

Dr. E. B. Queal then gave the paper of the evening, "Anatomy and Physiology of the Digestive Tract." This was a very practical and instructive paper, and was freely discussed by many of the members.

A letter was received from Dr. H. G. Garwood, asking for transferal card to the Denver County Medical Society. This was so ordered.

A letter was read from Dr. Ramaley, thanking the society for the honor conferred upon him by electing him as an honorary member.

A bill for \$2.00 for expenses was presented by the secretary. Moved, seconded and carried that it be allowed.

The following officers were elected to serve the society for the year 1910:

President—Lucy Wood.

Vice-President—W. A. Jolley.

Secretary-Treasurer—C. Gillaspie.

Delegate—J. Campbell.

Censors—E. B. Queal, Clay Giffin, J. Shiveley.

The society then adjourned.

W. A. JOLLEY,  
Secretary.

### DENVER COUNTY.

The twenty-first annual meeting of the Medical Society of the City and County of Denver was held Jan. 4, 1910, in the Academy of Medicine building, Dr. E. W. Stevens in the chair.

Dr. W. C. Bane spoke of the need of better accommodations for the library, and showed some proposed plans. Dr. E. Jackson moved that a committee of seven be appointed by the incoming president who shall report on plans to accomplish this end, which motion was carried.

The retiring president, Dr. E. W. Stevens, then delivered the retiring address.

The annual reports of the various officers were then presented, adopted, and ordered placed on file. The board of censors reported favorably on the following applications for membership: Drs. R. M. Marshall, J. B. Ham, Z. von Dworzak, C. B. Ingraham, J. F. Roe, A. J. Markley, G. P. McKenney, H. G. Garwood.

The annual election of officers resulted in the selection of the following:

President—Dr. C. B. Van Zant.

Vice-President—Dr. H. R. McGraw.

Secretary—Dr. E. W. Lazell.

Treasurer—Dr. W. H. Davis.

Librarian—Dr. C. G. Parsons.

Trustees—One year, Dr. F. W. Kenney; two years, Dr. E. W. Stevens; three years, Dr. M. Black; four years, Dr. W. A. Jayne; five years, Dr. E. Jackson.

Censors—One year, Dr. G. F. Libby; two years, Dr. W. A. Sedwick; three years, Dr. O. M. Shere; four years, Dr. C. E. Cooper; five years, Dr. J. B. Barry.

Delegates—Drs. E. C. Hill, J. R. Arnell, Geo. Moleen, Jos. Cuneo, J. N. Hall and J. B. Finucane.

Dr. Black moved a vote of thanks to the retiring officers for the excellent service rendered during the past year, which motion was unanimously carried.

The attendance was 101.

Adjourned.

E. G. PARSONS,

E. W. LAZELL,

Secretaries.

The second alternate meeting of the Medical Society of the City and County of Denver was held in the Academy of Medicine building Jan. 11, 1910, at 8:15 p. m., when the society had the privilege of listening to a most instructive and interesting address on "Pictures and the History of Medicine" by Dr. Carroll F. Edson. It was thoroughly enjoyed by all. Eighty-two attended and felt that the evening had been most profitably spent. The subject was skillfully handled and the pictures shown well illustrated the contempt for the faker and the respect for the high-class physician of earlier times. The gullibility of the public was well shown and took the form, as might be expected, of removing material objects from the body, in sharp contrast to the removal of "arrows of the mind" of our present-day fakers.

A meeting of the Medical Society of the City and County of Denver was called to order at 8:15, Jan. 18, 1910, in the Academy of Medicine building by Dr. C. B. Van Zant.

The board of trustees reported, presenting the budget for the ensuing year and a set of rules for the library. It was moved, seconded and carried that the report be adopted.

Dr. Mary E. Bates offered to furnish leaflets with reference to the examination of school children.

The president then announced the committees for the ensuing year as follows:

For Directors—The president, vice-president and secretary of the society.

Public Health and Legislation—Drs. L. B. Lockard, E. F. Conant and C. R. Fell.

He then requested to be instructed by the society, if it wished to continue the special committees of last year. It was moved and carried to re-appoint the special committees of last year with the exception of the committees on "Building" and that on "Public Health, Pure Food and Sanitation." It was moved, seconded and carried that the president appoint these committees. The committee, on Dr. Jackson's motion to report on better accommodations for the library, was appointed to consist as follows: Drs. W. C. Bane, D. H. Coover, L. Freeman, W. W. Grant, E. Jackson, R. Levy and H. Sewall.

Dr. W. W. Grant exhibited a patient whom he had operated by his operation for carcinoma of the lip, in which he had made a median incision through the lip down to, but not onto the chin, the incision carried around onto the neck below the angle of the jaw, the lip excised and a new lip made from the tissue of the cheek. He demonstrated that the patient had a serviceable mouth, talked well and that there had

been no recurrence. There had never been considerable glandular involvement. He contrasted this patient in this latter particular with another, a photograph of which he showed in whom there had been early glandular involvement. In the latter case in which there had been suppuration he had not had infection of the corners of the mouth, while in the latter case in which there had been no suppuration of the glands there had been slight infection. He emphasized the value of the T drain and the removal of the glands.

Dr. A. J. Markley exhibited a patient with *erythema induratum*, and spoke of the development of the indurated nodules appearing upon the calves of the legs and the subsequent course. He stated that the condition is supposed to be of tuberculo-toxic origin; that the contents of the nodules had been injected into guinea-pigs and the tubercle germ recovered. The condition had to be differentiated most often from *erythema nodosum* and *gummata*.

The society then proceeded to the scientific program. Dr. J. R. Arneill read a paper entitled "Report of Some Abdominal Cases Showing Interesting Diagnostic and Therapeutic Points," which was greatly enjoyed. Dr. F. L. Dixon opened the discussion, followed by Dr. W. W. Grant and Dr. Arneill to close. Dr. H. B. Whitney read a paper entitled "An Avoidable Form of Infant Starvation," which was well received.

Dr. Pfeiffer reported a case of diphtheria in which he had noted some peculiar phenomena which he attributed to over-stimulation.

Number present, seventy. Adjourned.

The third alternate meeting of the Medical Society of the City and County of Denver was held in the Academy of Medicine building on the evening of Jan. 25th, at 8:15 p. m., Dr. C. B. Van Zant presiding.

The address was given by Dr. H. T. Pershing on "Psychotherapy." The subject was cleverly handled and thoroughly enjoyed by all who braved the inclemencies of the weather. About forty were present.

E. W. LAZELL,  
Secretary.

#### EL PASO COUNTY.

The January meeting of the El Paso County Medical Society was held at the Antlers Hotel on the evening of January 12, 1910. There was a large attendance of members and several visitors.

After finishing the regular business of the society the program was opened by a paper by Dr. W. W. Williams on the subject, "Some Blood Changes Due to Altitude and a Method of Reproducing the Same Artificially." He said in part: That in the observations which have been made in the laboratories of Drs. Webb and Williams upon the climatic changes of blood in this altitude, that it has been noted that not only the red cells of the blood are increased, but also the leucocytes. In percentages the mononuclear leucocytes are increased more in proportion than any other of the white element. In their cases, which now number into many hundred counts, the per-

centage of increase of these lymphocytes is 40 per cent. He also advances the theory that it is the lymphocytes in the blood which have the property of digesting the waxy capsule which surrounds the tubercle bacillus. From these observations he reasons that it is not only the salubrious climate of Colorado which benefits the patients, but the altitude alone increases the blood element which has the property of destroying the infection. He exhibited a ball of wax secured from growths of the tubercle bacillus, cultures and bovine and human tubercle bacillus; and showed several charts and diagrams which illustrated the points of his paper.

Following this, there was an open discussion on the subject, "The Prevailing Epidemic of Colds; Peculiar Types; Difference from Former Epidemics," by Drs. Patterson and Dennis, followed by Drs. Martin, Timmons, Webb and Boyd.

Preceding the regular monthly meeting the members of the society, as well as several guests, partook of the hospitality of the president, Dr. G. R. Webb, in a very beautifully appointed dinner. This dinner was given by the president as a compliment to the society. It partook somewhat of the nature of a Gridiron Dinner and the different courses were spaced by poetic effusions and other things, the different members roasting and toasting their particular friends. The dinner was highly enjoyed and the society was very much flattered at this courtesy shown by its president.

L. H. M'KINNIE, Secretary.

#### FREMONT COUNTY.

The annual meeting of the Fremont County Medical Society was called to order by President Cummings in Florence, Colo., on Monday evening, Jan. 24th, at the office of Dr. Adkinson. The scientific program consisted of a paper on *perineorrhaphy* read by Dr. L. E. Rupert of Florence; discussions followed by Drs. Holmes, Goodloe, Rambo, Clark, Adkinson, Cummings and Rupert.

Presentation of Clinical Cases.—Dr. Rupert reported a traumatic rupture of the bladder, with good results from an operation. Dr. Hinshaw reported a case of thrombus or embolism of the brachial artery, in a post-pneumonia with fatal termination. Dr. Goodloe reported two cases of thrombosis, one post-typhoid, of the left femoral vein, with perfect results and one of the left basilic vein, of a septic nature but unknown cause. Dr. Orendorff reported a fatal case of *pyaemia* following tonsillitis.

The financial report of the secretary-treasurer was audited and accepted. The society proceeded to the election of officers. Result:

President—Dr. R. E. Holmes of Canon City.

Vice-President—Dr. L. E. Rupert of Florence.

Secretary—Dr. R. C. Adkinson of Florence.

Censors—Drs. Rambo, Orendorff and Cummings.

Members present: Drs. Cummings, Adkinson, Rupert, Hutton, Rambo, Moore, of Florence, and Drs. A. T. Clarke, E. A. Clarke, Holmes, Orendorff, Hinshaw and Goodloe of Canon City.

HART GOODLOE,  
Secretary.

**LARIMER COUNTY.**

Larimer County Medical Society met in the Y. M. C. A. building Jan. 5th, 1910. There were present: Drs. Dale, Kickland, McHugh, Winslow, Rew, Taylor, Norton, Carey, Replogle, Upson and Stuver. The minutes of the last regular meeting were read and approved.

The constitution and by-laws as outlined by the A. M. A. and which was presented and discussed at the last regular meeting, was taken up, read, and after being carefully considered and amended to adapt it to our local conditions and needs, was adopted.

The dues for the ensuing year were then fixed at four dollars (\$4.00). Officers for the ensuing year were then elected as follows, viz.:

President—Dr. Winslow.

Vice-President—Dr. Rew.

Secretary—Dr. Stuver.

Treasurer—Dr. Taylor.

Censors—Drs. McHugh (3 years), Dale (2 years), and Norton (1 year).

It was moved, seconded and unanimously adopted that a vote of thanks be hereby tendered to the retiring officers for their efficient and faithful services during the past year.

Adjourned.

E. STUVER,  
Secretary.

**LAS ANIMAS COUNTY.**

The Las Animas County Medical Society held its regular meeting Friday, Jan. 7th, with a large attendance.

The election of officers resulted as follows:

President—Dr. Beshoar.

Vice-President—G. W. Robinson.

Secretary—Perry Jaffa.

Treasurer—J. A. Hutchinson.

Delegate to the State Society—Dr. Perry Jaffa.

After adjournment the society indulged in a "Dutch Lunch."

P. JAFFA, M. D.,  
Secretary.

**MESA COUNTY.**

At a meeting of the Mesa County Medical Society held Jan. 4, 1910, the following officers were elected for the ensuing year:

President—P. P. Collins.

First Vice-President—H. Freudenberger.

Second Vice-President—R. B. Porter.

Secretary-Treasurer—C. W. Plumb.

Delegate—B. F. Miller.

Alternate—F. D. Coltrin.

Essayist—C. N. Needham.

CARL W. PLUMB,  
Secretary.

**MONTROSE COUNTY.**

The Montrose County Medical Society met in the office of Dr. F. G. Didrickson, Jan. 6, 1910.

Officers elected:

President—S. H. Bell.

Vice-President—F. G. Didrickson.

Secretary—A. W. Knott.

Treasurer—L. Beatrice Hyatt.

Delegate (2 years)—J. F. Coleman.

A. W. KNOTT,  
Secretary.

**OTERO COUNTY.**

The Otero County Medical Society met in regular session Dec. 14, 1909. In absence of the president and vice-president, the meeting was called to order by Dr. Kearns.

Minutes of November meeting read and approved.

President Moore came, and took charge of the meeting.

Dr. Edwards, chairman of special committee, asked for, and received, an extension of time in which to prepare program for open meeting.

Election of officers resulted as follows:

President—Dr. L. P. Barbour, Rocky Ford.

Vice-President—Dr. Jessie E. Stubbs, La Junta.

Secretary-Treasurer—Dr. O. J. Whitcomb, La Junta.

Delegate—Dr. W. M. Moore, La Junta.

It was moved and carried that the state delegate be allowed to choose his own alternate.

Dr. Whitcomb read a practical and helpful paper on "Lacerated Wounds," with description of several cases.

Dr. Edwards followed with an interesting paper on "Surgical Typhoid Infections of Hepatic Organs."

Both papers were freely discussed and appreciated.

Adjourned.

JESSIE E. STUBBS,  
Secretary.

The Otero County Medical Society met in regular session Jan. 11, 1910.

Meeting called to order by the president, Dr. L. P. Barbour.

Minutes of the December meeting read and approved.

Dr. A. L. Stubbs presented a case of compound fracture of leg, demonstrating his line of treatment, by which he obtained a perfect result.

Dr. Hall presented a case of fracture of the olecranon process, with dislocation of elbow.

Dr. Barbour read a paper on the "Tuberculin Theory," which was very interesting.

The cases and paper were fully discussed and appreciated.

Adjourned.

O. J. WHITCOMB,  
Secretary.

**PUEBLO COUNTY.**

The Pueblo County Medical Society met in their rooms in the Central block, Jan. 4, 1910, with twenty-five members present. After the reports of the officers and standing committees for the past year the society proceeded to elect officers for the coming year with the following results:

President—W. F. Rich.

First Vice-President—Crum Epler.

Second Vice-President—M. J. Keeney.

Librarian—W. W. Bulette.

Delegate to State Society—T. A. Stoddard.

Censor—J. A. Black.

The other officers, being for more than one year, hold over. After the new president assumed his chair the retiring president, J. E. Peairs, gave his annual address with suggestions for the betterment of the society and its workings and other matters of interest to the

society. Following this he read a very interesting paper on "Psycho-therapy."

The Pueblo County Medical Society since the 1st of September, 1909, have held weekly meetings and have very successfully carried out the post-graduate work laid out by the A. M. A. Since the institution of this work not a single member has failed to present the subject assigned him. The work has been very satisfactory and has been one of the most successful periods the society has ever enjoyed. The attendance has been exceptional and the interest taken has been flattering. The society proposes to continue the work thus begun for the coming year. The committees appointed for the coming year are:

Program and Scientific Work—E. A. Elder, W. G. Randell, W. F. Singer.

Public Health and Legislation—Hubert Work, Luke MacLean, A. T. King.

Entertainment—Fritz Lassen, W. S. Osborn, P. H. Heller.

Membership—W. E. Buck, W. P. Hunnicut, W. L. Dorland.

Publication and Library—W. W. Bulette, W. H. McDonald, Bon O. Adams.

E. A. ELDER,  
Secretary.

#### SAN JUAN COUNTY.

At the annual meeting of the San Juan County Medical Society held Jan. 3d, the following officers were elected for the year 1910:

President—Dr. J. N. Pascoe (re-elected).

Vice-President—Dr. J. S. Fox.

Delegate to State Medical Society—Dr. A. L. Burnett.

Secretary-Treasurer—Dr. F. W. E. Henkel.

Dr. A. L. Burnett was elected to membership.

A case of fracture of back, causing peculiar and very interesting symptoms, was presented by Dr. J. S. Fox.

F. W. E. HENKEL,  
Secretary.

#### WELD COUNTY.

Post-Graduate Class met at the office of Dr. Hughes at 8 p. m., Dec. 30th, 1909. The subject of discussion for the evening was "The Neuroses of the Stomach," led by Dr. Bernard. The chief thought was that there is really some pathological change causing the symptoms which we may later be able to demonstrate.

Post-Graduate Class met at 8 p. m., Jan. 6th, 1910, in Dr. Pogue's office and Dr. Pogue gave the lesson of the evening on the subject of "The Cacteriology of the Intestinal Canal." The dearth of discussion that followed the reading of the paper demonstrated how much we all need a real post-graduate course in an up-to-date laboratory.

Post-Graduate Class met Jan. 15th, 1910, at the office of Dr. Woodcock. The lesson for the evening was read by Dr. Woodcock from Sabotta's Anatomy translated by McMurrick, "The Anatomy of the Intestines."

Post-Graduate Class was held Jan. 20th, 1910, at the office of Dr. Thompson, who gave the lesson for the evening on "The Anatomy of the Peritoneum."

Dr. Reed gave a short reading on the structure of the mesentery.

An important point in Dr. Thompson's lesson was that the absorbing power of the peritoneum near the diaphragm is much greater than in the pelvis, hence the benefit derived from the elevation of the upper part of the body following operations on appendix or pelvic organs.

D. W. REED,  
Secretary.

The Weld County Medical Society held its first meeting of the year on Jan. 3d, with eleven members present. President Broman was in the chair and opened the year's program by the reading of a paper in which he noted very briefly (1) the progress in surgery, referring particularly to improved technic, accuracy in diagnosis and conservatism; and (2) the progress in general medicine, both in respect to prevention and therapeutics. Under the latter topic special mention was made of tuberculosis, commending the widespread effort toward combating the spread of the disease, the use of mercury and tuberculin in its treatment and the aid of polyvalent serums in mixed infection cases. The United States is leading the world in the fight, and Colorado in respect thereto holds a most prominent place among the states. He suggested, as a local advance move, a tuberculosis sanitarium and tuberculosis colonies for the Greeley commonwealth. Brief reference was given to the investigations of the newer diseases—hookworm and pellagra. The growing, kindly regard of the laity for the profession was noticed and the writer believed the same could be greatly enhanced if greater harmony and more manifest unity of purpose in the ranks could be secured. Weld County Medical Society had been and is a power for good. Much benefit has come to its members not only through its regular monthly program but also through its post-graduate course. There was, however, a possible danger to the society if a lack of interest be fostered by post-graduate work. The local society should be first, last, and all the time. The writer recommended in closing the holding of public meetings for the discussion of matters pertaining to physical and moral purity of the sexes among the young particularly, securing so far as possible the co-operation of the press, the clergy and educators.

The policy of the president for the coming year would be the general welfare of Weld County Medical Society and the amicable relationship among its members.

The paper called forth a most hearty response and was discussed enthusiastically by every member present. Immediately following the paper Dr. Ringle moved that a committee be appointed by the chair to devise ways and means whereby a public presentation of facts pertaining to sex function and venereal disease might be obtained. Drs. Shields, Ringle and Mead were appointed to that committee.

Through Dr. Church, the press committee reported fourteen articles published and two or three more on the way; referred to the kindly reception the articles had received from the press and the profit which must come to the



general public from such sources of information. The report was received and the same committee appointed by the chair for the coming year.

Appropriate resolutions were passed by the society concerning the death of Dr. B. K. Ellis.

Under the head of clinics, Dr. Church gave a brief report of his recent trip East, referring particularly to the work of Dr. Joseph Price of Philadelphia. He witnessed this surgeon operate on a case of exytrauterine pregnancy where the rurture was close to the cornu. Operator called attention to the fact that this site was a much more dangerous one than farther out in the tube. Dr. Price does not hesitate to do major operations at the patient's residence. In his operations he insists that all parts be manipulated as little as possible and with greatest gentleness.

Members present: Drs. Broman, Church, Dyde, Reed, Woodcock, Shields, Thompson, Ringle, Pogue, Miller and Duncan.

J. K. MILLER,  
Secretary.

## Books Reviewed

**Practical Dietetics, With Special Reference to Diet in Disease.** By W. Gilman Thompson. M. D., Professor of Medicine in the Cornell University Medical College of New York City; Visiting Physician to the Presbyterian and Bellevue Hospitals. Fourth Edition; Illustrated, Enlarged and Completely Re-Written. Octavo. Pp. 928. Price, \$5.00. New York and London: D. Appelton and Company. 1909.

The reviewer has made considerable use of an earlier edition of this work, and has found it attractive in style and helpful for reference. The present edition has been completely rewritten, notably enlarged, and illustrated with 42 new figures, mostly taken from the publications of the U. S. Department of Agriculture. The author follows his former arrangement of parts, treating successively of foods and food preparations; stimulants, beverages, condiments; cooking, food preparation and preservation, quantity of food required; special conditions, such as age, race and heredity, influencing relations to foods; food digestion and the conditions which specially affect this process; general relation of food to special diseases, including diseases caused by dietetic errors; methods of feeding the sick; special diet in nearly all forms of disease (embracing about one-third of the text); rations and dietaries, including dietetic cures, the feeding of infants, etc. An appendix of 20 pages provides in convenient array a large number of useful recipes for the sick and convalescent. The author is no faddist, and he gives herein an impartial and reliable resume of the important facts upon

the subject. The book is one to which every general medical practitioner should have access.

E. C. H.

**Tuberculosis. A Treatise by American Authors on Its Etiology, Pathology, Frequency, Semiology, Diagnosis, Prognosis, Prevention and Treatment.** Edited by Arnold C. Klebs. D. Appleton & Company. 1909.

Especially at the present moment, when both laity and profession are unitedly advancing the greatest propaganda against a single disease which the world has ever known, every new book on tuberculosis is sure of a cordial welcome. It is, however, of no ordinary work that notice is here given. Beginning with a brief historical introduction by Wm. Osler, and with further introductory notes by Herman M. Biggs and the renowned Trudeau, it may be safely said that no stronger group could have been assembled from among the relatively younger men who in America have contributed to the recent growth of our knowledge of tuberculosis, than is represented in this book. To mention only the names of M. P. Ravenel in connection with etiology, Ludwig Hektoen on pathology, Edward R. Baldwin on predisposition and immunity, Chas. L. Minor on symptomatology and physical diagnosis, and S. A. Knopf on the subject of public measures in the prophylaxis of tuberculosis, is to give some idea of the wealth of personal knowledge and observation gathered within the pages of this single volume.

No attempt can here be made to give even a brief review of single articles. While some are of striking force and individuality, all are alike not only full, but also concise and therefore most valuable for daily reference. Especially instructive is the great number of illustrations, as, for example, in the chapter on Sanatoria. One naturally turns first in such a work to the part dealing with physical signs and diagnosis; and we cannot forbear the expression of our delight with this whole section, and with the rare discrimination and clarity of diction with which Minor has handled it, and especially the important subject of the very earliest signs. Our only criticism of this, as of all similar articles, is that the experienced author apparently fails to appreciate how impossible it is for the average physician to distinguish between, for example, rough, harsh, and puerile respiration. Only the expert can do this; and the general practitioner, who is an enormous majority, should be taught what earliest signs he himself may be expected to recognize.

We believe this to be one of the important of the many good books on tuberculosis which have recently appeared; and we are sure that to those who have seen the list of contributors nothing more need be said as to the great value of this work to the American profession.

# COLORADO MEDICINE

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All communications to this publication must be made to it exclusively. It will be more satisfactory to all concerned if contributions are typewritten.

Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions.

Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession will be gratefully acknowledged. The name of the sender should be given.

The journal will be issued on the 15th of each month. All copy must reach the editor not later than the first of the month. Advertisements of proprietary medicines will be accepted provided the preparations advertised have been approved by the council of pharmacy and chemistry of the American Medical Association. Address all communications regarding advertising to

D. & E. Zimmerman, Adv. Mgrs., Merchants Publishing Co., Denver, Colo.

## Notice

All members of the Colorado State Medical Society are entitled to a copy of this journal each month. Failure to receive the same, and change of address, should be promptly communicated to the editor.

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No. 3

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

### THE AMERICAN DRUGGISTS SYNDICATE AND THE MEDICAL PROFESSION.

With a view toward monopolizing trade in several lines of business, there have been corporations formed, heavily financed, for the purpose of operating "chains" of stores throughout the country. Dry goods stores, shoe stores and cigar stores are the most familiar of those which have been established, but when the retail drug stores began to appear in this form, it required but a leader to suggest a plan which could be made to appeal to the small retail druggist as a means of self-defence or self-preservation.

The true feeling is to be seen in the report of the secretary and general mana-

ger of the American Druggists Syndicate (A. D. S.), Mr. C. H. Goddard, who is also the original founder of the corporation, from which the following may be quoted: "The necessity of this organization for the protection of the retail druggist was never more evident than it is today. \* \* \*

"That the Oil Trust and the Tobacco Trust have united to control the retail drug trade seems most absurd in face of the facts and conditions in Greater New York.

"The Hegeman chain of stores, in which Mr. Flagler, the relative of the Standard Oil magnate of the same name, is interested, are in sharp rivalry with the Riker chain of drug stores in which Mr. Cobb, a leading member of the American Tobacco company, is heavily interested. Each of these corporations is establishing new stores in close competi-

tion with new stores established by the other."

The chains mentioned include the two above; the Lauer Drug company; United Drug company (controlling the Rexall stores); Owl Drug stores, of California; Lewis K. Liggett company, controlling twenty-two Hall and Lyons stores, and many smaller and recently established stores.

With the commercial side of the drug business—not pharmacy—placed in jeopardy, it was not difficult to appeal to the "commercially" rather than the professionally inclined druggist to become a stockholder in a profit-sharing scheme, through which the organizers might occupy a position analogous to that of the "backers" of the concern to be antagonized, and maintained at the expense or through the effort of the retail druggists as stockholders.

The organization was started, according to "*The Voice of the Retail Druggist*" (January, 1910, p. 871) as follows:

"C. H. Goddard, now secretary and general manager, was living in California half a dozen years ago. He was interested in several successful enterprises, and conceived the idea of the syndicate from the co-operative spirit of the times now so widely manifest.

"He approached wide-awake druggists and showed them how the sentiment against harmful patent medicines and deleterious proprietary remedies had culminated in the devastating campaign against them carried on by two of the big magazines. The people, he urged, were afraid of the "dope" that went into the formula of so many remedies. They wanted good medicines and they would buy with the *tremendous buying power of yore* if they could have confidence in the goods. So why not *all the druggists get together*, manufacture their own remedies from tried-out formulas, market them through their own stores and thus at one

swoop have a quality of goods and a *powerful organization?*" [Italics are ours.]

Whatever may have been done by the organization to bring about a change in the nostrum business for the better, the one thing which is apparent, is that there have been manufactured and "pushed," preparations intended to replace the most popular and best selling patent medicines. Kidney remedies, obesity remedies, headache wafers, uterine tonics, etc., appear in the A. D. S. price list with inducements for urging the sale stated, as the following taken *verbatim* will show:

Fig Syrup Compound—Small, 85c per dozen, retails at 25c; 253 per cent profit. Large, \$1.75 per dozen; retails at 50c; 243 per cent profit.

A pleasant laxative especially adapted for children and women. Very effective in chronic constipation. Formula: Aromatized simple fig syrup, containing Cascara Sagrada and Senna, Alcohol, 16 per cent.

Digestive Tablets—Small, \$1.50 per dozen, retails at 25c; 100 per cent profit. Large, \$3.00 per dozen, retails at 50c; 100 per cent profit.

Stimulate and strengthen the digestive organs, correct impaired functions of the stomach and bowels and quickly relieve indigestion, dyspepsia and sour stomach. Formula: Pepsin, Pancreatin, Diastase. Rennin, Ginger, Peppermint, Bismuth Subnitrate.

Pelvitone—\$3.56 per dozen, retails at \$1.00; 242 per cent profit.

If there exists a distinction we fail to see the difference in preparations of this type with their sale being urged by pharmacists—whatever may be said regarding the advice to consult physicians, as is claimed to be done in the advertising of the organization. It is not protecting the public from the evils of self-medication, but establishing for it a new channel of supply, and in this respect in no way differs from

the Rexall, Owl, Ligett or other corporations of the kind.

As an inducement to become a stockholder a large number of the popular patent medicines are listed under "Cash Deposit Goods" at prices lower than the usual jobbing rate.

It is unfortunate that the National Association of Retail Druggists (N. A. R. D.) should appear to be so closely affiliated with the A. D. S. as to be the apparent, if not the only, cause of the secession of the Philadelphia Association of Retail Druggists. The sentiment is, however, expressed in a letter of resignation of Henry C. Blair, a prominent druggist of Philadelphia, as follows:

"Now, however, the N. A. R. D. has departed from its former principles and is urging its members to assist in promoting the patent medicine and nostrum cause on the one hand and the propaganda work on the other." He further refers to the association of the N. A. R. D. "with the greatest nostrum organization of the country" by which it has been absorbed this year. We infer that this is as a result of the election of the president of the A. D. S. as the president of the N. A. R. D.

In the *Journal A. M. A.* (Jan. 8, 1910) this and more is discussed in what we believe to be a fair criticism of the existing facts. The truth of the statement therein contained is rather accentuated than diminished by the personal abuse of the editor, which has since appeared in the organ of the A. D. S., including the incorporation of the abusive epithets, "with illustrations," which have been used before by other interests when they were exposed by the editor, Dr. Geo. H. Simmons.

Regarding these facsimile reproductions, intended to belittle Dr. Simmons as a quack and an irregular, and dated in the early '90s, even if viewed in the light of our present-day views, must be admitted to redound in an unusual way to

the credit of the man who has risen to the reputation of having materially assisted in placing the American Medical Association in its present position, and made its *Journal* the greatest medical publication in the world.

At a time when the effectiveness of the work of the A. M. A., with the Council of Pharmacy, and that of the National Pharmaceutical Associations is most evident, it seems unfortunate that such circumstances should exist, illuminating, as it does, the pharmaceutical rank and file, thereby rendering conspicuous, by contrast, the commercial and the professional apothecary.

The last word need not be said, for we believe enough has been cited to enable most physicians to see the relation between themselves and the American Druggists Syndicate and its membership.

#### OUR CANDIDATE FOR TRUSTEE.

With the coming meeting of the American Medical Association Dr. W. W. Grant completes his third term of continuous service as trustee of that body. Dr. Grant has been exceptionally faithful in the performance of the duties of his office, having missed but one meeting in the nine years, and has proven himself a most diligent, acceptable and efficient officer. He was active in the councils which guided the Association so wisely during the period of its reorganization and he has been especially influential in directing it to its present phenomenal success, its broad activities and powerful influence in medical circles as in the medical councils of the nation. As a member from Colorado Dr. Grant has reflected credit upon the profession of the state and upon the State Medical Society and at its recent meeting at Estes Park the sentiment in favor of his re-election was strong and unanimous and a delegate was selected who pledged himself to actively support him. Dr. Grant's services have been invaluable

to the Association and the profession at large and we mention our candidate in all confidence that in June next the House of Delegates of the A. M. A. will honor him and Colorado with another re-election to the trusteeship.

### *HORMONIC EQUILIBRIUM.*

In order to permit the great specialization of tissue function so characteristic of higher animals, the evolution of the metazoa has developed two means of organization between cell and cell. The first of these is the nervous system, by means of whose afferent and efferent systems, especially when connected by the elaborate and effective central station found in man, every fixed cell of the body may communicate with every other fixed cell.

The second is the blood. It was early recognized that the blood is the groceryman and the garbageman—feeding and cleansing all tissues alike; but only recently that it also circulates chemical messengers, or hormones, which, being produced in one tissue, cause hypo or hyper-function of far distant tissues.

The various hormones formed along the intestinal tract, cause the adjacent digestive glands to produce that kind of juice which is especially required; so that digestion from the mouth to the anus is a beautiful example of correlated function. Best known among these hormones is secretin, which, being elaborated by the action of acid chyme on the duodenal mucosa, stimulates pancreatic secretion.

Besides gastro-intestinal hormones, with more or less local action, there is a great group of internal secretions which affect the body economy as a whole. Let us very briefly review what is at present fairly well known with regard to the origin and physiological role of some of the internal secretions, passing over the question whether they act positively, by

themselves, or negatively, by neutralizing metabolic biproducts.

(a) The thyroid body is a colloid gland, originally derived from pharyngeal epithelium. Its hyper-function causes Parry's syndrome—tachycardia, tremor, nervousness, sympathetic exophthalmos, cardiac palpitation, and perhaps death. Its hypo-function produces congenital cretinism, or the myxedemic syndrome—obesity, edema, alopecia, low blood pressure and mental dullness. Emaciation and death follow complete extirpation.

(a) The pars anterior of the pituitary body is also originally a pharyngeal diverticulum and is also a colloid producer. Its hyper-function probably causes gigantism and acromegaly (Marie). Its hypo-function produces obesity and sexual inadequacy with or without atrophy of the genital organs (Cushing). Emaciation and death follow extirpation (Paulesco).

(b) The pars posterior, on the other hand, is derived from the nervous system and contains no colloid. Injection (hyper-function) causes increased arterial tension (Howell) followed by diuresis (Schäfer). Its hypo-function, judged from Masay's cytolytic experiments, produces asthenia.

(b) The supra-renal medulla is also originally derived from the nervous system and also contains no colloid. Injection (hyper-function) causes increased arterial tension. Its hypo-function causes Addison's syndrome—asthenia, pigmentation, low blood pressure and gastro-intestinal disturbances. Death follows extirpation of the whole gland. (The cortex is derived from the mesonephros).

The comparisons given above are very suggestive. It might easily be imagined that one gland could take up vicariously the function of another. In recent times a great mass of evidence has accumulated to prove this intraglandular relation-

ship. Injection of pituitary extract prevents the tetany following parathyroidectomy (Ott. Shott). Injection of the pars posterior produces initial hypertrophy and, if continued, atrophy of the supra-renals, and a state of hypothyroidism. Injection of the pars anterior may cause hyperthyroidism (Delille). After parathyroidectomy, the pituitary generally hypertrophies—also after thyroidectomy, or castration. The development of the testis, and ovary, as well as the bones, is in some way dependent on the thymus. The thymus is found hypertrophied in eighty per cent of deaths following thyroidectomy (Capelle). The goiterous struma of lactation and menstruation indicate a relationship between the mammae, uterus and thyroid. Mammary congestion is common during menstruation. Profuse uterine flow can often be controlled by the breast pump. Excision of the corpus luteum of pregnancy produces abortion. The commonly observed orchitic metastasis in mumps indicates some connection between testis and parotid.

The organs of internal secretion are all bound together harmonically in one association. Hormones of diametrically opposite function are produced and are constantly kept in equilibrium by this association. The pressor hormones liberated by the posterior pituitary, the supra-renal medulla and the kidney (Tigerstedt), are opposed by the depressor hormones liberated through muscular function (Howell).

These truths as they accumulate must necessarily be of great interest to the well informed medical man who constantly meets in his practice with enigmatic clinical forms. It is not beyond possibility that many vague syndromes containing asthenia, apathy, obesity, nervousness, emaciation, etc., will be cleared up by a more intimate knowledge of harmonic

equilibrium in the body. It is in such an harmonic equilibrium that the determinants of the gametes are bathed—a significant fact in the transmission of acquired characteristics.

### *THE PRESS COMMITTEE.*

The Press Committee of the Colorado State Medical Society has already received very generous responses to its appeal to members for brief papers on medical topics suitable for the lay press, and these papers will be distributed and published in the local papers throughout the state very shortly. A review of the papers show that they cover a broad field of medical information suggestive of prophylaxis and the early recognition and treatment of disease and are of great interest and instructive value. This is truly an altruistic work and is one of the most laudable activities in which the state society is engaged. The scope of this work and its possibilities for good are vast but it is necessarily limited by the small appropriation the society is able to devote to it. While the society is entering upon this work willingly yet a fair consideration of the subject would suggest that the burden should be carried by some philanthropic fund rather than by the very meagre resources of our state society, and then the work could be properly extended.

### *ASCITIC TREATMENT OF CARCINOMA.*

To clear up the various unauthorized statements made by the daily press with regard to the new scientific treatment of cancer advanced by Dr. Hodenpyl of New York, we reprint in another part of this issue from *The Medical Record*, February 26, 1910, his first announcement (see page 117). It will be noticed that Dr. Hodenpyl does not in any way set himself up as having discovered a new cancer cure. His announcement is, on the contrary, very conservative and will bear careful reading.

## Original Articles

### SURGICAL TYPHOID INFECTIONS OF THE HEPATIC ORGANS.

(A Clinical Report.\*)

E. GARD EDWARDS, M. D.,

La Junta, Colorado.

Suppurative conditions of the hepatic organs, as a result of typhoid fever, being of sufficient rarity to warrant a report, I am sure I may be pardoned for giving a brief detail of the history of four cases, two of abscess of the liver, one of cholecystitis and one of cholangitis accompanying or following that disease. Two of these cases were seen in my own practice, and two in consultation with Dr. E. Ragsdale, of this place.

I. **Abscess of the Liver.** This patient, a lady of thirty-eight, ran a typical typhoid course of moderate severity, twenty-four days in all. Previously, she had been in good health as far back as she could remember. Twelve days after the last vestige of afternoon temperature, her husband telephoned me that she was having quite a severe attack of what he termed "colic." A remedy was prescribed but the patient not seen. The next morning the patient was found with a temperature of 103, pulse 118, in some distress over the upper right quadrant of the abdomen and gave a history of a slight chill in the early morning, also that she had had but little pain until two or three days previous when she had felt a slight soreness in the stomach and on the right side. Palpation showed marked dullness from the median line of the abdomen in the hypogastric region to the flank and from the ribs downward to the region of the appendix and considerable tenderness throughout that region. There was slight jaundice and nausea. She was given soda succinate and soda salicylate, enemas ordered and ice to the abdomen, liquid diet. The temperature fluctuated for the next three days, between 101 and 104, pulse never being above 116-118; no increased jaundice and no change in soreness, either for better or worse. On the fourth day, two distinct enlargements could be felt over the course of the ascending colon and the mass was evidently filling in the upper right quadrant as it was distinctly palpable from the back.

High abscess from the appendix was diagnosed and the patient prepared for an operation on the following day. A sudden rise of pulse to 140 changed the plan to immediate surgical interference. Following the incision of the peritoneum, an enormously enlarged liver, with several small abscesses projecting to the sur-

face, was found. The abscesses were drained, the peritoneum being protected by gauze sponges. Examination, by a small needle, of accessible parts of the liver brought in all cases a puslike discharge but, so far as could be discovered, no large abscess cavity. Liver and peritoneum were stitched together and gauze drainage inserted in the incised cavities. The temperature and pulse fell to normal within two days. A week later a high rise in temperature and pulse occurred, and, after waiting three days and no improvement being manifest, it was decided to operate again through the original line of incision. Directly under the opening and in the liver substance was found almost a pint of pus. The cavity was explored by the fingers and the liver, at various points, with a needle but no other focus was found. Temperature and pulse dropped to normal within twenty-four hours and the subsequent history of the case was not eventful. Three months sufficed for the wound to heal. Four months later percussion and palpation showed no perceptibly increased liver dullness.

II. **Abscess of the Liver.** A young lad of eight had a protracted and rather severe attack of typhoid. After an interval of time, the question as to the cause of the persistent temperature began to be a vexatious one. About the end of the eighth week distinct enlargement of the liver, palpable through the back and downward for three inches, became apparent. Chills and sweats set in soon after; no jaundice nor nausea. Diagnosis of abscess of the liver was made. Upon operating, the liver was found to be the cause of the dullness which had been noted, but there were no signs of an abscess on the anterior portion; gallbladder was not enlarged. After considerable exploring by needle the focus was found in the lower part of the right lobe. The peritoneum was protected by gauze packing and the abscess opened. It proved to be a pocket threaded with trabeculae, as well as could be determined by the fingers, and contained possibly three ounces of pus. The temperature, which before the operation was running to 104½, dropped to normal within thirty-six hours, to occasionally rise to 100 in the afternoon during the next ten days. The convalescence was somewhat tardy but uneventful and satisfactory.

III. **Cholecystitis.** Another young lad, twelve years of age, had a moderate attack of typhoid. About the usual time for the recession of the temperature, the morning temperature was normal. As I was seeing the patient only every third or fourth day and no accurate chart was kept, I am unable to state when the rise, consequent upon the infected gall-bladder, began. On the fourth morning, after being normal, the patient had a temperature of 104, with a pulse of 120 and marked tenderness over the gall-bladder; jaundice slight; no nausea; liver dullness not greatly enlarged, possibly a finger breadth below the ribs. Diagnosis was made in the absence of sufficient typhoid symptoms to account for the temperature, of cholecystitis. The patient was given soda succinate and soda salicylate and afterward dilute nitro-hydrochloric acid and hydrastis, then sodium phos-

\* Read before Otero (Colo.) County Medical Society, Dec. 9, 1909.



phate; liquid diet. At first local applications were ice, afterward heat. During the next two weeks occasional chills and slight sweats occurred and there was no improvement in temperature and pulse, both of which were high. Operation was advised. This revealed a gall-bladder distended to three times its size, liver apparently normal. When the gallbladder was opened there was a copious flow of bile which was mixed with a pro-purulent discharge, but of which no microscopic examination was made. The drop in temperature was a question of a few hours only—a condition of shock followed. Under the action of saline protoclysis and atropine at the end of twenty-four hours the temperature rose to normal. At this point it stayed. The incision had healed in six weeks. Soda salicylate was given for two weeks following the operation.

**IV. Cholangitis.** A young married woman during the puerperium following a difficult forceps delivery, not under very aseptic surroundings, developed what was thought to be septicæmia. Diagnosis was so made owing to the utter lack of abdominal symptoms and to the persistently high pulse and temperature—140 and 105 not being unusual. Local symptoms were not marked so far as denoting septic infection but not until the appearance of intestinal hemorrhages was a satisfactory diagnosis made. A long struggle followed to pull her through this condition. Consequent upon this came an attack of pneumonia for seven days, then evidences of mastoiditis followed by a discharging ear. During this time her condition was at times seemingly hopeless. Convalescence began at the end of the sixth week of her illness. Seven days later, in answer to a summons, the patient was found with a temperature of 105½, pulse close to 150, jaundiced over her whole body and suffering intense pain over the gall-bladder and to the left. A heavy chill had occurred the evening before. No improvement followed during the next twenty-four hours and drainage of the gallbladder was advised. The results were the same as in the other cases mentioned—a rapid drop in temperature and pulse rate. Little bile was discharged for four days, then it appeared together with a large amount of pus. Convalescence was uneventful.

A somewhat extended review of the literature on this subject discloses but little information. Rolleston says that hepatic abscess, in a very few instances, follows typhoid, and that in 2,000 autopsies on fatal cases, by Hulscher of Munich, twelve cases were found. As to cholecystitis, he quotes records from the South African war reports where only one case in 1016 was sufficiently marked to direct attention. He states that a slight infection is doubtless common; that the time of attack may be either during, immediately

subsequent, or years after the attack of fever, and that the infection is by one of four routes—first, the portal vein; second, the hepatic artery; third, common bile duct; or fourth, subsequent upon a cholangitis. In reference to cholangitis, the same author gives statistics from Johns Hopkins University, of five cases in 829, and from the South African war reports of one case in 244.

Butler says that typhoid may be a causative factor, and that any tenderness in the region of the gall bladder, during and following typhoid, should be a sign of watchfulness for infected gall-bladder or ducts.

Douglas mentions abscess of the liver as very rarely the result of typhoid infection and assigns as the cause, in the cases which do exist, that the infection is, first, from the intestinal ulcer; second, from continuity through the common duct; or, third, consequent upon a pylophlebitis. In reference to cholecystitis, I quote from the last-named author: "We are chiefly indebted to Osler, Richardson and Cushing, in this country, for a satisfactory explanation of the well-recognized, clinical fact, that cholecystitis occurs as a sequel of typhoid fever." He quotes Hanner's case, where typhoid bacilli were isolated and cultured from a gall-bladder eighteen years after the attack of the fever.

Pre-existing cholelithiasis is by all authorities regarded as a very potent factor in the development of suppurative conditions of the gall-bladder or ducts consequent upon typhoid. The cases recorded in this article had no such predisposition.

"Typhoid Mary," after being quarantined for some three years by the New York Board of Health, has been released upon the condition that she will not resume her former occupation of cook, and report frequently. This is the woman who was the cause of several typhoid epidemics and who gave the first clew that healthy persons may be "typhoid carriers." She still discharges active typhoid bacilli.

## AN AVOIDABLE FORM OF INFANT STARVATION.\*

By DR. HERBERT B. WHITNEY,  
Denver, Colo.

The enunciation of any precise plan of dietetic treatment, in either infants or adults, brings with it the danger of an excess of zeal in its pursuit. A modicum of common sense will always be the most valuable asset of the physician, and it is to be regretted that it is so often smothered beneath a mass of largely theoretical considerations. This is frequently illustrated in the dietetic management of the gastro-intestinal disorders of infancy. All authorities correctly teach that the restriction of diet is by far our most important weapon in combatting these conditions; but it can be the intention of no one to insist that a starvation diet should be invariably continued until either the stools are normal, or the child dies of inanition. A few especially typical cases out of a considerable number which I have encountered will serve to explain what I mean by an avoidable form of starvation.

**Case I.** Baby C., aged sixteen months, was first seen on September 13, 1907. He was the child of a physician, and for the past three months had been under the care of another of our most prominent confreres for a diarrhea which had continued almost constantly to the extent of three or four, and sometimes six, stools a day. The stools were black from bismuth, often semi-solid, and only occasionally offensive. There had never been any fever, but some fretfulness and a loss of weight amounting to six pounds. The diet when I first saw him was peptonized milk diluted with nine parts of water, plus the white of one egg to each feeding. The child had six meals a day of ten ounces each. Reckoning the caloric value of white of one egg at 35, and of six ounces of milk at 120, we have a total of 330 calories a day instead of the 700 or 800, which a child weighing twenty pounds ought to receive. It is not surprising that the physical examination, though otherwise negative should have shown an extreme degree of emaciation.

The treatment which I advised was 50 per cent. buttermilk for the first two or three days, increased to pure buttermilk on the fourth. All medicines were discontinued. On the 23rd, the tenth day of this treatment, the stools were one

or two daily, of light yellow color and of good consistency. The child had gained sixteen ounces, seemed contented, and went on to full and rapid recovery.

**Case II.** Baby M., aged eleven months, was brought in from a neighboring town on September 19, 1908. A diarrhea which began ten weeks ago had ceased, but had left behind a condition of sour, curdy, and offensive stools. For this the diet for the past week, as prescribed by local physicians, had been albumin water plus a total of eight ounces of milk a day. Previous to that, variations of the same starvation diet had been tried without influence on the character of the stools. There was no fever or vomiting, but the child was exceedingly fretful, waked every half hour of the night and had lost much flesh.

The diagnosis was pure starvation, and forty-two ounces of equal parts of skimmed milk and barley water was given during the next twenty-four hours. With steady improvement this was rapidly increased, so that on the 23rd, four days after I first saw him, he was on quite a full diet of milk, had gained 1½ pounds, slept well, had two large smooth stools daily, appeared happy and contented, and was discharged practically well.

**Case III.** Baby W., aged twenty months, was sent here by Topeka physicians on February 31, 1909, and I was immediately asked to see him. I found the mother and trained nurse both almost worn out with anxiety on account of his condition. Originally somewhat dyspeptic, a stomach attack had begun two weeks ago with nausea and a bad color and odor of the stools. The temperature had been often 100 in the rectum, but never higher—a temperature, by the way, which is not inconsistent with perfect health. At present the stools were frequent because of the repeated use of cascara and castor oil; they were said to look badly and to contain much mucus. The child never ceased crying, and had lost much weight. The bowel was being irrigated twice daily, and the diet consisted wholly of barley and albumin water, with a little zwieback. In every detail the directions of physicians were being carefully followed.

Here again, after careful study and examination of the case, I could see nothing but inanition and a correspondingly desperate hunger. A full daily quantity of 50 per cent. of skimmed milk and barley water in the first twenty-four hours was increased to 75 per cent. on the second day. He had then begun to show a return of his old spirits and to get about a little on the floor. Although recovery was not wholly smooth and uneventful, a slight diarrhea compelling us on the tenth day to make a temporary retreat, yet the general statement may be made that the steady increase of his diet to whole milk, with cereals, was attended by a rapid return to practically normal stools, general contentment, and eventual restoration of health.

**Case IV.** Baby S., ten months old, the child of a physician, was brought in on September 20, 1909, with the following history: During

\* Read before the Medical Society of the City and County of Denver, January 18, 1910.

the first five months on the breast it had gained from five and one-half pounds at birth up to seventeen pounds. Its present weight, however, was only thirteen pounds because of, apparently, a too great anxiety as to the appearance of the stools on the various foods which it had received. This had led to a constant process of restriction, until, on account of a diarrhea from a weak Nestle's mixture, the diet was now practically nothing. The stools were three or four in the twenty-four hours, with no fever or vomiting; but the baby was thin and miserable, and was screaming unremittingly. Regarding these signs as evidence of gastro-intestinal indigestion, the father was in favor of albumin water alone for the next few days.

I could see no evidence of serious bowel disturbance, and very strong evidence of extreme starvation. My advice, therefore, was to begin at once with a generous allowance of a 66 per cent. mixture of top milk and barley gruel. In a week the stools, which had increased at first to eight or ten a day, were reduced to two, and of excellent character. The child had gained a quarter of a pound, was contented, and was manifestly convalescent, as shown by an uninterrupted recovery.

**Case V.** Rob't McM., aged twenty months, had been ill for three weeks under the care of several physicians when I first saw him on the 25th of October, 1909, and had become reduced to a most wretched and alarming condition. There had been a constant diarrhea, with much mucus and occasionally a slight amount of blood, and accompanied by a temperature of 100 to 102. The stools, on the day I first saw him, numbered seventeen, but were small, of brownish color and not especially offensive. The child is described as grunting and very fretful, with very poor sleep and apparently a great desire for food. His diet up to the present had been barley gruel and panopeptone, with at times broth and beef juice. For the past three days the temperature had not been above 100.6. The physical examination showed great emaciation and weakness, but no organic lesion except a slight questionable enlargement of the liver. His health has always been apparently good up to the present illness.

In the diagnosis and management of this case, I felt that although inanition was the principle feature and must be met at all hazards, yet there was some likelihood of an enteritis, possibly follicular in character, and of very dubious prognosis. It was, therefore, with some apprehension that I determined to give this child as rapidly as possible all the food which it could stand. I began with a 50 per cent. mixture of skimmed milk and barley gruel peptonized for twelve minutes. Drugs used were large doses of bismuth, paragoric, and later tannigen.

Manifest improvement was perceptible at once, although it was some days before the child was considered out of danger. The increasing satisfaction of hunger showed itself in a constantly increasing contentedness. For three or four days, the temperature continued

to reach over 101, and the stools showed but little diminution in frequency, but many of them appeared fairly well digested, the others were small and the increase of food was steadily maintained. A theory of mine that the fever itself might be the result of starvation, as one occasionally sees in convalescence from typhoid, was apparently confirmed by definite defervescence on the fifth day, October 30th, on which I made the following note: 'Five stools in the past twenty-four hours, the last yellow and formed. Temperature normal and child eats ravenously as hitherto. Has over 50 ounces of pure skimmed milk daily, with some farina. Ordered the addition of 1 per cent. of cream.'

One week later there had been a considerable gain in weight, the child was bright and playful and was taking eggs, meat and zwieback. Convalescence was thenceforth uninterrupted.

It seems quite evident that all of the foregoing cases, to which others might be added, are instances where the attendant physician has unwittingly persisted in a starvation diet under the mistaken impression that it was indicated by the condition of the gastro-intestinal canal. How may this error, certainly not wholly inexcusable considering the usual teaching of the books, be avoided?

Assuredly, in all cases of acute infantile diarrhea or dyspepsia, a limitation of the diet for a certain length of time to albumin water, the cereal gruels, etc., is the most important procedure at our command; it represents at least nine-tenths of our therapeutic capacity in such cases, and its importance cannot be overestimated. Two facts, however, should be constantly borne in mind: First, that the nutrient value of all such substitutes, whether albumin water, gruels, broths, beef tea and beef juice, or the various proprietary solutions of peptonoids, etc., is utterly inadequate, in any permissible quantity, to the maintenance of nutrition; they constitute a starvation diet. For example, an infant of six months, weighing, say, sixteen pounds, requires, approximately, 600 calories a day. On white of egg alone, this would mean the consumption of about eighteen eggs, or, as it is usually made, of four and one-half quarts of albumin wa-

ter. Barley gruel, in the strength of one-half ounce to the pint, has a caloric value of, I think, about three calories to the ounce instead of the twenty contained in milk. Beef juice, probably the most nourishing solution to be obtained from beef, has about six calories to the ounce; and in the small quantities usually administered is of almost negligible value. It is true that cereal gruels may be made very much stronger by the use of malt. The so-called Cereo-gruel flours, in which partial dextrinization has been effected by the use of a malt preparation called Cereo, may be made as strong as three or four ounces to the pint, and yet remain thin enough for practical use. This method is extremely valuable in a certain class of cases; and yet even by means of such expedients it is very difficult to nourish a child properly without the aid of milk. The second fact to be borne in mind is that, although infants bear abstinence very well for a few days, they succumb more rapidly than adults to its undue prolongation. This is to be remembered particularly in certain cases where one finds himself between Scylla and Charybdis, fearing, on the one hand, the pernicious result of an increased diet, and on the other the increasing danger of inanition. My own inclination, as seen in case V, is to brave the former danger whenever such a course seems in the least justifiable.

In view, then, of these two important considerations, granting that the time has arrived after any acute gastro-intestinal attack when an increase of food appears necessary, how may we decide as to the relative safety of such a step?

While it is impossible to lay down definite rules, and to put into words those general impressions which experience enables us to correctly form, we may at least formulate two or three general principles.

First, we should always remember that we are treating a child and not stools. It is impossible to study the latter too carefully, but it is quite possible, and, indeed, a very common error of both physicians and mothers, to be too anxious about certain variations from their normal appearance. I cannot here consider the significance of curds, and of changes in color, consistency and odor, but I wish to state most emphatically that a child with curds, or so-called undigested stools, may, nevertheless, grow and thrive as well as could be desired. I have even known a perfectly healthy child at the breast to have six to ten grass-green stools a day throughout the whole first half of infancy; nothing came of it, and he developed normally like other children. Mothers particularly worry altogether too much about curdy stools, and should be taught that when a child is increasing normally in weight the stools may often be disregarded.

Again, in convalescence from gastro-intestinal disorders we cannot expect anything like normal stools until the child begins to eat; milk only will produce the typical yellow stool. The stools of a child on a cereal gruel are generally brownish, and lack consistency; and if albumin water, or beef preparations, or peptonoids, like somatose, etc., have been given, the odor will often be offensive. All these preparations, too, tend, I think, to make the stools more frequent. It has further seemed to me that such a diet favors at least the appearance of mucus in the stools. I say appearance because I believe there is a certain amount of mucus intimately mixed with every stool, and that this mixture prevents its easy detection. So we need not necessarily be deterred in certain cases from the cautious resumption of milk by either curds, brown or even greenish color, offensive odor, or even some mucus. What should deter would be rather the

diarrheal season of the year; gravity of the onset; acuteness of the manifestation; especially, absence of appetite, whereas a voracious hunger should always strongly suggest the need of more nourishing food; furthermore, vomiting, collapse, abdominal pain or tenesmus, stools containing much blood or large quantities of mucus, and of corresponding frequency. Most important of all, however, is that symptom on which a second general principle may be based, i. e.,

Fever. Although, as illustrated in one of the reported cases, fever is not an absolute contraindication, yet, cases would be indeed rare in which an abundant milk diet would be justifiable during its continuance. As in typhoid, it is only in convalescence that a persistent low fever may be no contraindication; as above stated, such a temperature may correspond to the so-called inanition, or bed, fever of typhoid. It is also to be borne in mind that a rectal temperature approaching 100 is not necessarily abnormal in childhood, and if a few days' observation shows it to be fairly regular and of uniform range, it may often be disregarded. Certainly when fever has definitely ceased, there should in most cases be no long-continued persistence in a starvation diet.

In brief: When an infant, after an acute gastro-intestinal attack, whether diarrheal or otherwise, is apparently convalescent, as shown by practical subsidence of temperature, diminution in the number and size of the stools, and especially by a voracious appetite, a tentative return to a milk diet is always, to say the least, a matter for serious consideration. Albumin water, beef juice, peptonoids and gruels, as ordinarily used, are starvation diets; and even in cases where convalescence is not assured, it is better to risk a cautious increase of food than to allow a child to die of starvation.

## *SURGERY IN THE TUBERCULOUS.\**

D. P. MAYHEW, M. D.  
Colorado Springs, Colo.

Mr. President and Gentlemen:

The ideas I present to you to-day are brought forward as much for the sake of the discussion, which I hope they may provoke, as for any other reason. I hope to hear such expressions of opinion as will help me to crystalize my own.

The subject, "Surgery in the Tuberculous," was suggested to me by some remarks made in the course of a paper read at the last meeting of the Western Surgical and Gynecological Society by Dr. Haggard of Louisville. He stated that phthisis pulmonalis was a contraindication to operations for tuberculous peritonitis. This was so at variance with my experience that I was surprised to hear no voice but my own raised in question.

In Colorado Springs such an appreciable percentage of our operative cases are to be found amongst those suffering from pulmonary tuberculosis that the correct answer to the general question he then raised is of the very greatest interest and importance to us. If such pulmonary infection contraindicates interference in tubercular peritonitis, does it in other infections of the peritoneum, or other affections involving that membrane, and, again, should we extend that inhibition to operations of any nature in those unfortunate enough to bear tubercles in their lungs or elsewhere.

I have therefore attempted to answer these questions by a reference to a number, somewhat limited, indeed, of cases which I have had in my own practice. I have sought out from my records previous to one year ago, one hundred consecutive cases of operations in the tuberculous. During the same period I found a total of 332 cases showing that of all the surgical

\* Read before the Colorado State Medical Society, Sept. 15, 1909.

work done for that period about 30 per cent was done on those with pulmonary lesions.

Such a percentage is important enough to occasion inquiry as to the advisability of such work and its effect not only as to immediate mortality, but as to the effects which the anaesthetic or the operation *per se* may have had on the further course of the pulmonary lesion.

I have therefore prepared a table that we might see briefly the various kinds of operations done, and also get a view, however imperfect, of the mortality in the various cases.

Type of Operation	Died at Once	Now Dead	Lung Condition			
			Not Imp.	Imp.	Well	
Appendicitis and Tubercular						
Peritonitis --	30	1	9	0	11	9
Mastoid -----	6	0	1	0	1	4
Hernia -----	6	0	0	1	2	3
Thoracotomy -	3	1	1	0	0	1
Pelvic -----	21	0	0	1	3	17
Rectal -----	15	0	2	3	7	3
G. U. -----	1	0	1	0	0	0
Extremities --	14	0	6	1	3	4
Neck -----	4	0	1	0	0	3
	100	2%	21%	6%	27%	44%

The headings, improved, not improved and well, refer to the lung condition when last heard from and not to the operative wound.

In all the cases chloroform was used because of its less irritative effect upon the bronchial mucous membrane. Thanks to the skillful manner in which it was given, there has been not a single case of any ill effect from its administration. Shock has been absent in the majority of cases, but when present was no more than might have been expected from the nature of the operation and the patient's general condition.

In the series of 100 cases all but two made uninterrupted operative recoveries. Of those two, one was a case of ulcerative tubercular typhlitis and appendicitis, which was found to have perforations in the colon. As a result of these a septic peritonitis developed upon the pre-exist-

ing tubercular peritonitis, and in spite of approved methods of treatment, including Fowler position and enteroclysis, she died on the 6th day. The other was a case of abscess of the lung. The patient was in extremis and only at the earnest solicitation of himself and his family I consented to operate. Although the pneumotomy was done very quickly, he did not survive the shock and died almost on the table.

Of the twenty-one others who are now dead, none had any trouble in healing. In fact, the recoveries were as uneventful as is usually the case. But one died in less than ten months following the operation, and in none was the end attributable to the surgical interference. That one was a case of deep stricture of the urethra resulting in absolute retention, in which external urethrotomy was done. There was no shock or any trouble following the anaesthetic, but eighteen days after the operation, following a period of uninterrupted convalescence, he suddenly had a pulmonary hemorrhage and died. As there had been no bronchial irritation following the anaesthetic and no increase of his cough nor temperature, this outcome seems to me to have been one of those accidents to which the patient with lung tuberculosis is liable, and in no way attributable to the operation.

The cases included in this series were of all stages of pulmonary involvement. The end results as shown in the table do not differ markedly from those published from time to time in the reports of various sanatoria except that the percentage of the "not improved" is less than is usually seen. I wish to lay stress on the fact that these cases represent all types of pulmonary phthisis, just as they are met with in the ordinary course of events, and were not selected in any way with reference to the extent of the lung trouble. The results as to the outcome of that trouble are at least no worse than would have been

the case had there been no surgery. That much the table makes clear.

In the table you will notice that appendicitis and tubercular peritonitis have been grouped together. This is due to the fact that in some of the cases it was difficult to say definitely whether or no the trouble in the appendix and about it was due to the bacillus tuberculosis or not, as no pathological examination was made. The cases graded from those frankly not tubercular into those frankly tubercular. In this group the proportionally large number of those now dead is due to the proportion of advanced pulmonary cases in it and not, it seems to me, to anything in the nature of the operation. This brings me to the consideration of another phase of the subject and one to which I especially invite your discussion.

One of the earliest cases of this sort, but not of this series, was a young man, Mr. M, who was afflicted with a rather rapidly progressing phthisis. I was called in to see him during an attack of tubercular peritonitis. He gave a history of recurrent appendicitis, and at the time I was called the diagnosis of acute appendicitis had been made. He was operated and an appendix which proved on microscopical examination to be tubercular, together with a number of tubercular nodules along the mesentery were removed. The recovery from the operation was uneventful, and much to our surprise, his lungs began forthwith to improve. That improvement was steadily progressive, and he has since been enabled to complete a medical course and to enter upon the practice of his profession.

About the same time another patient developed a strangulated hernia. This hernia had bothered her for some time, especially when she coughed. Digestion had been poor. She was operated and seven inches of gangrenous gut were removed. She not only recovered from this rather

formidable operation, but surprised us all by getting well, after some months, of her pulmonary trouble also. She recovered sufficiently at least to return to Detroit, and when last heard from a few months ago she was well.

The outcome of these two cases surprised us. The explanation, however, is undoubtedly as follows. In combating tuberculosis of the lungs the bodily organism must call out all its resources of whatever nature. If, now, there be added other sources of intoxication or through some continuous irritation of the gastro-enteric tract there is an interference with digestion, the resisting powers may be so embarrassed that the defense will fail; the invading hordes in the lung will be triumphant. If, however, we may in some way remove this added difficulty of the organism the latter may have strength to overcome the pulmonary condition which we cannot directly help.

In accordance with this hypothesis the first case was doing badly because the body could not cope with the pulmonary trouble plus the intoxication from the infected appendix and peritonium. Relieved of the latter it was able gradually to overcome the former.\*

In the second case the body, hampered by the digestive difficulties due to the hernia, was unequal to the demands made upon it. Relieved of those difficulties it was enabled to defeat the pulmonary invasion.

Encouraged by these two results, I have not hesitated to operate on cases referred to me, no matter what the pulmonary condition, if, leaving that out of consideration, there was a surgical lesion present. While the results have, of course, not been all that might be desired, for our desires would lead us to hope for the restoration to health of all our patients, yet a number of cases have made us rejoice at their progress; a number are now living in improved



health that ordinarily would now probably be dead. The number of desperate cases, considered aside from the surgical lesion, classed under the head of appendicitis and tubercular peritonitis is twenty, of whom nine are dead and eleven are living and improving. These 20 cases, so far as our fallible judgment might point out, were all due to die, even though they had never had appendicitis or tubercular peritonitis. That any of them are now alive is encouraging.

Of course, we know that cases of pulmonary phthisis are deceptive. That many die who apparently should live, and many live and improve, the end of whose term of earthly existence was seemingly already in sight. Again we are coming to recognize that the psychic side has a greater influence on the tuberculous than was for a long time thought. Many patients do well for a time, no matter what the treatment, provided they believe in it and hope for results. Nothing can have much stronger suggestive powers than a surgical operation, and this perhaps has had its due influence.

These facts prevent the small number of cases presented from being conclusive. I am far from wishing to be understood as making any such claim, but they are suggestive.

In a few cases a deliberate attempt has been made to influence favorably the lung condition by operations that were not absolutely necessary. The others urgently demanded surgical interference without reference to their lungs. Three cases of chronic appendicitis producing digestive disturbances, but without marked pain or acute exacerbations and two cases of uterine disturbance, one of polypoid endometritis and one of fibromyoma producing excessive flow, and one case of troublesome ventral hernia. Two of the appendicitis cases are dead. The ventral hernia is still alive, but unim-

proved, while the other three are now practically well. In all six of these cases I was told by the attending physician that unless something was done the patient would surely die. Of course, the prognosis might have been wrong. Those who are alive might have been so in any case, but nevertheless one-half the cases that were desperate are alive.

The operations were done in the forlorn hope that the elimination of one depressing influence might enable the body to cope with the more serious affection.

It is not an attempt to cure pulmonary phthisis by operation on the abdomen or elsewhere. It is merely an attempt to relieve the body of an additional incubus; of some condition which may be reached surgically, and which might possibly prove the proverbial feather to the system almost overburdened with damaged lungs. That the lungs cannot now be themselves successfully attacked with the scalpel is no reason surgery may not be, indirectly, of value. This is an experimental hypothesis, which may be of some value even if less than that of vaccines.

I should like to see others try it and to hear their reports.

To recapitulate: This series of cases, though brief, shows three things with fair clearness. First, that an anaesthetic does not embarrass seriously a patient with pulmonary tuberculosis. Second, that the mortality from the operation itself is no higher, *ceteris paribus*, than if the lungs were not affected. Third, that the mortality from the pulmonary lesion is at least no higher than it would be if no surgery had been done.

It suggests also the hypothesis that a pulmonary lesion may be indirectly benefited by the removal of another point of irritation. If this once be granted we must logically go a step further, and say that in patients with lung tuberculosis who have such a point of irritation which can be reached by the scalpel, operation

not only should not be denied them, but should be even urged.

#### DISCUSSION.

**Dr. J. F. McConnell:** This is a subject of even popular interest, and I think Dr. Mayhew's idea in bringing it before us is most commendable. His results coincide largely with my own experience except in the matter of the anesthetic, and I am very glad to hear the rather reassuring report which he has made. I have seen two cases of chloroform anesthesia in which I was quite sure that the bad effects noticed in the patients' health subsequent to operation were due to that agent. Where possible, I think that these operations should be done under local anesthesia. This is particularly easy in fistula and rectal conditions, more so than in abdominal operations. Of course fistulae occur in tuberculous individuals just as in others, and are not to be confounded as being tuberculous in nature themselves. I have seen no bad effects from the operations *per se*; that is, I have never seen any evidences at all of infection at the site of operation, the operation creating a spot of lowered resistance, such as we might expect if the bacteriemic idea of Rosenberger and others is tenable at all. The operations on the digestive tract improve the condition of the patient and where there is some point of irritation, such as an appendix, I found its removal accomplished a great deal of good. I have seen three cases in the last year where an appendectomy was performed in each, which cleared up digestive disturbances that were thought to be due to tubercular involvement. The anorexia and a general abdominal distention and pain, thought to be due to the fact that the patient had tuberculosis, and was possibly infecting himself from time to time by swallowing the sputum, after those operations there was a marked betterment in the patient's condition and the general nutrition improved. I am, therefore, prepared to look with considerable favor on the advent of the surgeon in such cases. I think that there is a marked difference in the results obtained in different parts of the body, that is, between operations in the abdominal cavity for example, and operations on the genital tract. I have seen operations performed which were hardly necessary in some cases, such as for relief of varicocele, for instance, which is a minor thing, and yet followed in one case by a particularly unfortunate result. It is hard to differentiate whether the anesthetic had something to do with this particular case that I refer to or that the operation *per se* lowered the patient's resistance and brought about the unfortunate results which I have spoken of.

I am very glad indeed to have heard the paper, and I hope it will meet with general discussion.

**Dr. Leonard Freeman:** Mr. President, I regard this paper of Dr. Mayhew's as being one of the really important papers of this meeting. As he suggests, the idea is more or less prevalent that tuberculous patients cannot be operated upon with safety. It is an important mat-

ter for us in this community to disprove that, and I think the operations of all the surgeons in Colorado will serve to uphold the idea that tuberculous patients can be operated on. I do not care, however, to go quite as far as Dr. Mayhew has gone and claim that they can be operated upon with equal safety with other patients, and yet the danger is very slight. I have operated upon many tuberculous cases, as all surgeons in Colorado have. In fact, if we were to cut out the tuberculous cases our operations would be comparatively few.

I have seen a number of cases in which I felt sure that the operation influenced for the worse the condition of the lungs. This has usually been temporary, but nevertheless it occurred. The question does not lie with the operation itself, but with the anesthetic. There are several ways of administering anesthetics, and it is well to consider them in this connection.

There is the general anesthetic. I agree with Dr. Mayhew that chloroform is the best in most tuberculous cases. To it I think should be added atropin, in order to lessen the amount of bronchial secretion. We should be very careful that the anesthetic is administered in the best possible manner, and we should also be careful that the stomach is empty so as to lessen the danger of aspiration-pneumonia.

Then there is local anesthesia. I agree with Dr. McConnell that this is a most important thing to consider. As long as we admit that there is danger with general anesthetics, then we should turn our attention towards local anesthesia. I do not think that the profession at large recognizes the importance and the possibilities of local anesthesia. There was a time when we had no anesthetics at all, and people conceived an exaggerated horror of operations. Then, when the general anesthetics came in, we jumped at them, and we lost sight, in our joy at having something to remove pain, of the dangers of general anesthesia. Now we are beginning to recognize more clearly that a general anesthetic is dangerous to anyone, and particularly, perhaps, to the consumptive. It is possible to do so many operations by local anesthesia that I am continually surprised, although I have given attention to the subject, at what it is possible to perform.

Recently I heard of a prominent clinic in Germany, where one-half of the operations were done under local anesthesia. In my own practice I have been able to resect ribs, to remove tumors, to operate upon hernias, to do hydrocele operations, varicocele operations; I have been able to amputate toes; I have been able to remove stones from the bladder and do operations upon the bladder for drainage, to do perineal urethrotomies, and many other operations which I might mention. If one tries, one can keep on increasing the scope of one's operations under local anesthesia.

Recently I tried the operation which has been introduced by Beer. It consists in opening a vein and injecting into it an anesthetic solution, and by this means obtaining anesthesia of an entire extremity, by means of

which amputations can be done, resections of joints, or anything else, without the slightest pain. The trial in this instance was very satisfactory, both to the patient and to myself.

**Dr. E. J. A. Rogers:** As Dr. Mayhew read this paper, the thought came to me that I had seldom heard a paper so opportune and so thoroughly practical and useful as Dr. Mayhew's. It has covered a point that we have not discussed much here in Colorado, because we have come to know these things by experience, but for the benefit of surgery all over the world it is well that this discussion has come up.

Long ago I accepted the axiom that when an operation was in doubt the fact that the patient was tubercular was an argument in favor of the operation instead of against it, for the simple reason that his resistance was less, and that resistance was not impaired but stimulated by the process of the operation. The only exception to Dr. Mayhew's paper that I would take has already been taken, and that is the expression which I know he did not really mean, that an anesthetic is as safe with a pulmonary tubercular patient as it is with other patients. The danger is with the anesthetic, that has been so thoroughly discussed I need not say more about it just now.

Another expression in Dr. Mayhew's paper might mislead; his statement that no matter how bad the tubercular lesion is he would not hesitate to operate. Of course if a patient is dying with tuberculosis, and death is inevitable, it would be useless to operate, but that is only in extreme cases. Taking it all through, while a man has a chance of life at all, the fact of his being tuberculous would rather tend to encourage me to operate than not.

I am glad Dr. Mayhew took up the other discussions too—the question of the mental influence of the operation. That of course interests me very much, and I am very glad to see that Dr. Mayhew grasps this point very thoroughly.

This of course brings up the old question of, Where is the benefit in the operation on tubercular peritonitis? Undoubtedly the benefit is to a great degree psychic in most of these cases. But this subject is inexhaustible. I want to compliment Dr. Mayhew on his paper. It is most opportune. The statistics which he gives refute any argument against the paper whatever.

**Dr. T. D. Stoddard:** As Dr. Rogers has said, the paper is opportune, and the ground is pretty thoroughly covered. There are few of us who operate more or less on tubercular cases, that is, patients with pulmonary lesions. But I think, as Dr. McConnell says, it is a pretty good plan not to do operations that are not absolutely necessary especially in those cases in which a general anesthetic has to be given. I think I should hesitate to operate on varicocele and such cases, because I do not believe that varicocele causes sufficient trouble to warrant the operative procedure with a patient who has pulmonary lesions. And so with voluntary suspension or shortening of the

round ligaments. I should hesitate to operate save in exceptional cases. Of course, in emergency cases no one would hesitate for a moment, no matter how bad the pulmonary lesion might be, as Dr. Mayhew says.

I make no criticism of the doctor's paper except this, and I do not say this in a spirit of criticism but in a spirit of search after knowledge. The doctor has reported so many of these tubercular cases after operation that their pulmonary lesions were cured—they were well. He does not say arrested. Now, if they have the elixir of life in Colorado Springs we all want to get it. Dr. Wright has not dared with all his enthusiasm in his use of mercury to say that his patients had been cured. He says the disease has been arrested or that the bacillus has disappeared from the sputum. But Dr. Mayhew tells us his patients are well. We want to know what method of treatment they have there in Colorado Springs for curing these tubercular patients in the short space of time in which the doctor has cured them.

**Dr. J. R. Hopkins:** I had a case some four years ago that illustrated the point that Dr. Rogers brought out, and also which Dr. Mayhew mentioned, that it is more important when a patient needs an operation if the patient is tubercular, to operate on him than if he were not tubercular. The case which I mention was that of a woman who had come from Kansas to Colorado for her health, on account of pulmonary tuberculosis, some six years before I operated on her. She had had hemorrhages and fever and cough, she got better and was apparently well for some five years. Then she began getting pelvic trouble, profuse leucorrhea and very severe dysmenorrhea. She came to me and I found she had a cyst in the pelvis that proved later to be an intra-ligamentous cyst. For six months or a year the pulmonary symptoms came back, she began to have hemorrhages again, the temperature went up to  $99\frac{1}{2}$  to 100, there was loss of weight until she lost twenty or thirty pounds. I examined her and advised an operation, to have the uterus dilated and curetted and the growth removed. She was sent to St. Anthony's hospital, and I assured her that her case would be better and her lungs would be better if she were operated on, and that otherwise her lungs and cough would get worse and she would get just about as she was before, and probably would not recover. So she went to the hospital, and I did the abdominal section, removing the intra-ligamentous cyst, and dilated and curetted the uterus. While she was yet in the hospital the cough stopped, her temperature became normal, the hemorrhages ceased, and a constipation evidently caused by the cyst pressing on the rectum was absolutely cured as was also the severe pain in the pelvis and the dysmenorrhea. In the twelve months following she gained forty pounds, and got back to her normal health again with no more pulmonary symptoms. In this case, if she had not been operated on, as her lungs were getting worse in every way and as she was tubercular, the operation was more important than is she had not been so afflicted.

**Dr. W. W. Grant:** The author of this excellent paper it seems to me does not state one important thing which makes the surgical treatment of the tuberculous in Colorado somewhat different in its results from the treatment of the same disease in more unfavorable climates, and that is the benefits which we have obtained from our climatic conditions. I suppose that our tubercular patients here stand operations better than they do in more unfavorable climates, and that point is therefore a matter of a good deal of importance.

As to the question suggested by Dr. Mayhew concerning the advisability of surgical operations in certain conditions of patients suffering from pulmonary disease, we have varied results, and yet on the whole favorable to operating, especially as to tuberculosis of the fallopian tubes, tubercular appendicitis, and at times not so favorable from tubercular rectal diseases. I cannot subscribe to the doctrine that the existence of tuberculosis gives an additional assurance of safety in operating. Neither do I believe Dr. Rogers is right in asserting that the results from operations for tubercular peritonitis are psychic. We now believe that simply opening the abdomen in tubercular peritonitis and draining it even temporarily, or irrigating with salt solution, affords a stimulus to the leucocytes, to the opsonins and anti-bodies, which after all are responsible for these favorable results. I find that in persons suffering from pulmonary tuberculosis the wounds do not heal so kindly nor so certainly as they do in the non-tuberculous. I find they are disposed to run along into fistulas, whether they are of the rectum or diseases of the appendix and the cecum, unless a very radical operation is performed. I think, therefore, that these cases should be operated upon with the same discrimination and judgment that we would apply to other cases and conditions. Certainly these subjects, here, are under the most favorable conditions for surgical intervention, and if we did not operate on them some of them would die sooner, and if we simply prolong their lives a few months or a few years, then the operation is distinctly advisable and should be performed in all such cases. The reason that some of these wounds do not heal kindly, is due not only to the tuberculous infection but to the fact that most of these cases acquire a mixed infection, and these are the cases which tend to be more virulent and to persist, and I believe in a certain number we have appropriate subjects for an additional addendum to our treatment in the form of vaccine therapy.

**Dr. E. J. A. Rogers:** May I speak to a question of privilege? I did not mean to say, if I did say, that the influence in operating on tubercular peritonitis was solely psychic. I believe the psychic influence comes in the way Dr. Mayhew so clearly expressed. I think the psychic influence plays a very strong part in recoveries.

I never dreamed at all, and I certainly did not say that operations were safer in the tubercular than in the non-tubercular, and I did not understand Dr. Mayhew to say so.

## DISCUSSION CLOSED.

**Dr. D. P. Mayhew:** It certainly has given me very great pleasure to have my paper as well received as it apparently has been. Possibly I have been more fortunate than I should have been, because I have not had a single case where there was any ill effect from the anesthetic. This series of 100 cases really begins with the end of 1907. I went back until I had an even hundred cases. Before that hundred cases I had others, and since then I have had more. And in not a single one of these cases have I had ill effects from the anesthetic. I think that must be attributed to the skill of the anesthetist, because as we all know, the manner of giving an anesthetic has a very great influence not only on the tubercular but on those who are free from pulmonary infection. But nevertheless the fact stands that there have been no bad results from it in any way.

I think, however, that there is an added danger from the anesthetic in cases of tuberculosis due to the presence of this pulmonary infection. Because of that danger, those who are skilled in the use of local anesthetics undoubtedly would have good results from local anesthesia, and in their hands it should be employed. Personally I have not had enough experience with them to make me want to do major operations under local anesthesia. But where it can be done, of course, it is a good thing to do. In the last year I have excised some ribs under local anesthetics and done a few operations of that sort.

One of the gentlemen discussing this subject said he would not do a ventral suspension in a case like this. It seems to me that that is one case where we might get a great deal of benefit, because in these cases we know we have a condition of retroversion of the uterus which presses on the rectum, a condition of fecal retention is produced, and that condition loads up the body with a lot of toxins. Then if we can relieve this condition by relieving the malposition of the uterus we certainly will give the body a better chance to overcome pulmonary infection, because it would no longer be overwhelmed by the toxins from the intestines. So even in an apparently somewhat out-of-the-way operation like ventral suspension we may possibly expect to get some results. Now, of course in a varicocele, where we could hope for no such results, one naturally would not think of operating. Common sense must be used in matters of this sort just as in anything else.

In response to the question how we cure our patients down there, of course that simply amounts to this: These patients are all referred to me. I do not treat tuberculosis of the lungs at all, and these cases have been referred to me by others. I have gotten the results from them. The majority of the patients within the last year or two are now listed in the table under "improved." It is the older cases, that I operated some time ago, that come out under the head of "well"; they are well if I am well; that is to say, we have got scars in our lungs, but we have no cough, we can attend to our daily duties, we can go where we please to live,

we have no symptoms. Therefore, we consider ourselves well, whether we are or not. And that is the class of cases which I have listed under the head of "well." They may be merely arrested for all I know.

I have also had a little better luck than Dr. Grant seems to have had in the way of fistula, because aside from ischio-rectal abscess in those cases I have not had fistula at all. All the wounds have healed up kindly. I have had not a single case in this class of tubercular patients of fistula after operation on the intestines. I have had I think only one or two of those cases and they were not in tubercular patients. So I think possibly my results are almost better than I ought to have hoped for, but that, nevertheless, is the way they have been. So I think we can argue really that the operations on these tubercular patients are not more dangerous; at least my experience would bear out the argument, that they are not more dangerous than if the patient did not have tuberculosis, except of course from the fact that any patient who is in a weakened condition won't stand an operation so well as one who is robust. But aside from that feature of it I do not think there is any trouble from such operations.

#### *SOME OBSERVATIONS ON THE USE OF TUBERCULIN IN PUL- MONARY TUBERCULOSIS.*

By W. T. LITTLE, M. D.,  
Canon City, Colo.

Specific therapy for tuberculosis remains in the experimental stage. Cattle have been immunized against tuberculosis by inoculating the live bacillus, but the immunity thus conferred is of short duration, lasting not more than "six months to two years" (Baldwin), and exposure to natural infection after this may result disastrously.

From the production of a prophylactic immunity, which thus far seems to offer little of practical value, we shall consider the possibility of the production of a curative immunity after natural infection has taken place.

Although much remains obscure we do know that two factors are concerned in the production of the disease—the bacilli and their toxins. We know that man's resistance is relatively high to the bacilli and low to the toxins; that the defensive bodies agglutinin, opsonin and lysin are more concerned with the destruction of

the bacilli leaving the antitoxic bodies to overcome the toxins.

Believing the anti-bodies rose and fell in the blood together, Koch thought the agglutinin, whose quality could be more or less accurately determined, would prove an index of resistance, as he found when he injected an emulsion of tubercle bacilli into man the reactions were accompanied with a distinct rise in the agglutinating index. Further observations proved this incorrect. Kinghorn and Twitchell (1) found the serum of healthy individuals agglutinated tubercle bacilli almost as frequently as did the serum of patients suffering from pulmonary tuberculosis (84.28 per cent for healthy, and 87.09 per cent for tuberculous persons), and that the agglutinating value of these healthy and tuberculous subjects was practically the same (13.67 for healthy, and 14.82 for tuberculous).

These findings agree with other observers—Koch, Beck, Rosenberg and others.

They further observed, as did also Koch, that while this agglutinating value increased under the administration of tuberculin, it did not reach its maximum at the end of treatment, often falling unexpectedly in the course of the tuberculin treatment in spite of the fact that the patient continued to improve.

Nor is the opsonic index any more dependable. It rises and falls as does the agglutinating index. Further, we lack evidence to prove the leucocytes do more than temporarily remove the bacteria from the field of action; or if they do digest the bacilli the toxins are doubtless liberated into the circulation.

Baldwin (2) found "when natural infection is taking place or the individual is undergoing immunization there are evidences of changes in the blood, but when no such stimulus is active the content of anti-bodies agglutinin, opsonin or lysin slowly drops to a normal level. That the

antitoxic bodies are equally unstable and rise and fall co-ordinately with the other anti-bodies seems reasonable and explains the comparatively short duration of tuberculosis immunity. But this condition, unstable as it is, is necessary for the recovery of an individual sick with tuberculosis, and the production of this temporary immunity is the aim of all treatment.

As efforts for the production of a passive immunity have thus far proved disappointing, and we are forced to depend on the patient's own tissue cells to produce the anti-bodies, it is of the greatest importance that these are re-enforced to the utmost by food and rest. Accordingly the hygienic, dietetic treatment must continue to be of paramount importance, and in a majority of cases will prove sufficient. But there remains a goodly proportion who have acquired sufficient immunity to hold the disease in check, but not enough to completely arrest it. Their tissue cells have enough vitality to respond to fresh stimuli, but these are too slight to provoke an increased production of anti-bodies.

It is just here that tuberculin is indicated, when it acts as a spur to the tissue cells, compelling them to greater activity.

#### CHOICE OF TUBERCULIN.

There is still a division of opinion on the relative efficacy of tuberculins containing the bacilli (T. R. and B. E.), and the filtrates, and latterly that made with the bovine variety of bacillus. The toxins of the tubercle bacillus, being largely insoluble, are not given off, it is asserted, to the medium in which it grows.

The evident presence of toxins in the filtrates, however, is explained by Vaughn as being due to the presence of splitter-products of the bacillus: in other words, fragments of the bacilli which liberate their endotoxins after injection. Be that as it may, I believe the weight of evidence is in favor of the filtrates as being easier controlled, safer and just as potent therapeutically.

#### SELECTION OF PATIENTS.

I have indicated elsewhere the class of patients for whom the tuberculin treatment is appropriate. Nevertheless, their selection requires no little experience and judgment. Patients showing signs of activity should be excluded and also the far advanced. Our greatest temptation comes from the latter class who have all but exhausted our resources and are finally given tuberculin because they are afebrile and appear to have a fighting chance. Occasionally we may get some benefit, but disappointment will be the rule.

#### METHOD OF ADMINISTRATION AND DOSAGE.

The so-called clinical method of administration as elaborated by Dr. Trudeau is in the main pretty generally accepted. I believe, even by those who are competent to take the opsonic index. This method depends entirely on the clinical signs as the guide for dosage and intervals. For a complete description of this method I would refer you to Dr. Trudeau's original article (3). I do not follow his method, however, to the extent of pushing tuberculin to the maximum of tolerance, or aim to produce tuberculin immunity. Once the dose is reached under which the patient shows improvement there seems little need of further increase until we see greater stimulation than we are producing is necessary. This is virtually Wright's method without the opsonic index.

#### REACTIONS.

Reactions from tuberculin are advised against by all who have written on the subject although Trudeau and Brown admit they have never seen harm come from them. Theoretically a reaction, if not too severe, should be beneficial in producing an increase of the anti-bodies, and Koch found in his study of the tubercle agglutinin that he got a decided rise of the index only after he had produced a sharp reaction with tuberculin. Clinically we observe the period of improvement that follows an exacerbation of the disease. I am

disposed, therefore, to look on slight reactions as in no sense undesirable and entirely harmless if we observe a sufficient interval after the reaction before resuming treatment.

The duration of treatment depends entirely on the condition of the patient. So long as there is improvement treatment should be continued until there is an apparent cure, or improvement ceases. In relapses it is often desirable to give a second course of injections.

The real value of tuberculin is difficult to estimate and impossible to express, as so many factors enter into the cure of tuberculosis. But the same may be said of climate. Nevertheless, I am convinced that patients do better with it together with the hygienic-dietetic treatment than when the latter is depended on alone.

It has been asserted that what apparent benefit comes from tuberculin treatment is psychic. I cannot admit this, and yet we all recognize the wonderful stimulus it is to patients to know something is being done for them. In addition it enables one to observe his patients with that frequency and regularity otherwise impossible outside of a sanatorium.

Important as this advantage is the physician who gives tuberculin merely to avail himself of it without an honest belief in its therapeutic potency will fail because he will not acquaint himself with the minutiae of detail essential to success.

What the future has in store for us is impossible to forecast, but until better means are discovered it is our duty to make use of all the weapons at our command, however imperfect they may be.

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## *A PHARMACOLOGICAL STUDY OF THE DRUGS USED IN DISEASES OF THE GENITO-URINARY TRACT.*

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The drugs used in diseases of the genito-urinary tract include such a large number that it is obvious that they cannot be considered individually in the time allotted to the papers before this society; in fact, the title of this article might have been, "Some Comments on the Misuse of Drugs in Treating the Genito-Urinary Tract," for I do not intend to be specific, but mention a few points that do not receive proper attention in the work of the general practitioner. I will not take up the special diseases, such as gonorrhea.

To simplify matters, I will divide this tract into two parts: 1st. The secreting cells of the tubules of the kidney, upon which falls the heavy task of removing the deleterious products formed in the body. We would then infer that any inflammation, acute or chronic of this part would have a great effect upon the whole body. 2d. The balance of the tract which simply serves as canals and reservoir. An inflammation here would be merely a local mechanical obstruction.

The urine is an index of the work being performed by the whole body. The quantity may be changed by the amount of water ingested, or eliminated in perspiration and feces. The constituents depend upon the character and quantity of food and the work performed. The seasons of the year and many other normal factors may cause wide variations in the normal urine, which cause the ordinary doctor to resort to active medication.

Moreover, as soon as any systemic infection makes a change in the normal metabolism, causing the urine to vary ever so slightly, we find the patient dosed with



diuretics, when there is absolutely no indication for such treatment. If I can get this one fact fixed in your minds, I will be satisfied with the results secured by preparing this article.

Without going into the detailed pathology of the various forms of nephritis, will say here that the clinical manifestations are caused by the interference in the circulation and the retention of deleterious substances. The indications of treatment would be: give rest to the injured parts, by removing the work from the kidney, and causing the sweat glands and bowels to do more than their usual work, but do not stimulate the already overtaxed organ.

In chronic conditions, when this does not suffice, we begin to use drugs which stimulate the cells to increased activity. These drugs are called diuretics, and may be divided into four classes: The first class acts indirectly by *modifying the circulation* and includes many familiar drugs: digitalis, strophanthus, apocynum, scilla, and convallaria. In this day of the use of active principles and the scientific work of the Council of Pharmacy, I beg permission to offer my observation that I have secured the best results from these drugs in the form of an infusion, when diuresis is desired.

The second class has a similar action, but has also a *direct stimulant action upon the excretory cells*. It is composed mostly of synthetics, chemically formed by combining various radicals with the "purin" nucleus. The common ones are caffeine, theobromine, agurin, theocin, acet-theocin-sodium, and diuretin.

The third class comprises the *saline diuretics* which modify the character of the blood and so indirectly cause diuresis. They also cause direct stimulation of the kidney cells. This class is very useful and can be used in combination with the two classes already given. It includes the potassium, sodium, and lithium salts, usually

the acetates, citrates, tartrates, and benzoates—all soluble in water.

The drugs of the fourth class cause diuresis by irritating the kidney cells, and therefore should not be used if any degree of inflammation be present in the kidney. They also have an antiseptic action. The common ones are: terebinthina, copaiba, buchu, santalwood, cubebs, juniper, and cantharides. They are insoluble in water. Their active principles are essential oils, terpenes, and resins, and should not be used in combination with other classes. They are usually given in capsules or emulsions.

The use of diuretics is mainly indicated to remove toxic substances from the body or to remove effusions, even though there be no pathological lesion in the tract we are stimulating. In many cases of inflammation in the urethra we may modify the urine to relieve irritation.

The diseases of the lower part of the tract may be enumerated—pyelonephritis, hydronephrosis, pyelitis, ureteritis, cystitis, prostatitis, posterior urethritis, and urethritis. They are all simply inflammation of some distinct part of the same tube. We may treat these cases as we would lesions on the skin, bearing in mind that absorption of toxins may cause constitutional symptoms, by giving drugs whose end products are bactericidal. Here we actually bathe the affected parts with a weak antiseptic liquid, effective by its continuous application. The local lesions in the majority of cases are caused by the gonococcus, but may be due to other organisms.

The drugs of Class 4 are germicidal. Many of the organic radicals, salicylates, benzoates, etc., given in Class 2 are eliminated by the kidneys, and can be used for their antiseptic action. Phenyl salicylate (salol) is a drug long given for its antiseptic action in the intestines and urinary tract. It is broken up into phenol and

salicylic acid; both are antiseptic, but care must be observed on account of their toxicity. The drug pre-eminent at the present time for this purpose is hexamethylenamin, which is excreted in the urine as formaldehyde. Instead of finding this drug on the market as hexamethylenamin alone, we find it called "hexamine, urotropin, formin, cystogen, aminoform, uritone," etc. It acts promptly and can be found in the urine by simple tests. It may cause an irritation, and must be carefully watched. I always advise that it be taken in a large amount of water.

Methylene blue is a drug which may be utilized for its psychical effect. It turns the urine green or blue, but has little germicidal power.

In conclusion: I am afraid that I will be classed as a doubting Thomas, but a careful study of materia medica during the past six years for the purpose of teaching, has shown me that we do not ordinarily get down to fundamental physiological facts. In such self-limited diseases as: measles, small-pox, and pneumonia, we hear of wonderful cures, which rigid investigation would show to be a normal course. We must always bear in mind that most drugs are eliminated by the kidneys and will have some effect upon the genito-urinary tract, but that the most wonderful cures of this tract itself are due to the hygienic and dietetic measures followed.

## New Members

E. A. Fetherston, Fort Morgan, Morgan county.

W. C. Braden, Orchard, Morgan county.

A. Clark, Canon City, Fremont county.

Roscoe O. Baker, Y. M. C. A. Bldg. (Denver), Denver county.

Federal meat inspectors have shown that two per cent of the 56,000,000 hogs in this country a year ago, and valued then at \$339,000,000, are affected with tuberculosis.

## Progress of Medicine

### INTERNAL MEDICINE.

Edited by

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Associate Prof. of Med., University of Colorado.

William J. Baird, M. D.,

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### THE VALUE AND LIMITATIONS OF SALT-FREE DIET AND RESTRICTION OF FLUID IN NEPHRITIS.

A great deal has been claimed for these measures and undoubtedly they deserve much consideration, but the following coming from the pen of so able an observer as Victor C. Vaughan (*Jour. A. M. A.*, Nov. 27, 1909) will help to give them more nearly their proper status as therapeutic measures. He says the following points seem to be fairly well established:

1. Urea and uric acid are not important constituents of the urine so far as their toxicity is concerned. I mean to say that neither of these can be regarded as the active agent in the causation of those symptoms that result from failure to function on the part of the kidney.

2. About 85 per cent of the toxicity of the urine is due to its inorganic constituents, the most toxic of which is potassium chloride.

3. There are present in normal urine certain organic poisons, the nature of which has not yet been ascertained.

4. Although the inorganic constituents, notably potassium chlorid, are markedly poisonous, they can not be regarded as standing in a direct causal relation to that complex of symptoms which we designate as uremia. A small fraction of a grain of potassium chlorid, as I have frequently demonstrated, injected into a ventricle of the brain of an animal, may cause prompt death, but neither the symptoms nor the post mortem findings are those of uremia.

He says that in withholding salts from our nephritis we are not withholding the

direct cause of the uremia but we may protect the kidneys by decreasing to a certain extent their labor and thus conserve their capacity as organs of elimination. Any inorganic salt in excess of that needed in the processes of metabolism acts as an irritant and increases unnecessarily the stress of work thrown upon the kidneys, and it is important that this should be avoided, especially where the kidneys are diseased. He believes that the inorganic and the organic toxic constituents of the urine, to a certain extent, neutralize each other. The ash of the urine is much more toxic than the whole urine.

He contends, and quotes experiments to sustain his contention, that a too nearly salt-free diet is inclined to disturb the health of the normal individual. The average individual requires about six grams per day. He shows, furthermore, that Wiedal's contention, that edema was due to retention of chlorids, has not been wholly borne out. It seems, especially in acute nephritis, to be due to the effect of the poisons on the vessel walls. In many cases of chronic nephritis it is due to the disturbance of circulation and is best combated by agents directed to these causes. In certain cases of chronic parenchymatous nephritis the edema is markedly influenced by the quantity of salt in the food and in these and in the so-called "prenephritics" seems to be its greatest field of usefulness.

He thinks that the most of us take too much salt. It seems rational to limit the fluid intake in nephritis, especially where there is a tendency to edema, but nothing is gained by carrying this out to the distress of the patient. O. M. G.

VERONAL AS A REMEDY FOR DELIRIUM  
TREMENS.

Fris Möller, Copenhagen.

At the Frederiksberg Hospital, Copenhagen, the last five or six years, the only

drug used in the treatment of delirium tremens has been Veronal. One hundred patients have been treated with only three failures; two deaths of pneumonia, one of asthemia. The only untoward effect of the drug has been a single occurrence of a "Veronal rash."

The patients usually entered the hospital with more or less rise in temperature (37.8 degrees to 39 degrees) and quick pulse. They were given at once one gram of Veronal which almost uniformly put them to sleep for twelve hours to awake clear, quiet, with normal pulse, and temperature and feeling perfectly well. If slight tremor continued a single dose of one-half gram was given. If the initial dose failed to induce sleep and control the delirium it was repeated three hours later and occasionally it was necessary to give a third one gram dose five to six hours after the second. If for any reason a patient remained longer in the hospital he was given a half gram dose of Veronal at bed time. (*Berliner Klinische Wochenschrift*, No. 52, 1909). W. J. B.

ARTERIOSCLEROTIC GANGRENE IN THE YOUNG  
Michels.

It is only within the last decade or two, that it has been known that in young and otherwise healthy individuals the peripheral arteries may become diseased, and serious results follow. The cases are not numerous but Michels in his service at the German Hospital, London, has seen several, usually men from thirty to forty-five years of age. Usually the legs alone are involved, but the arms are by no means immune. The disease begins with pain in the toes or fingers which soon extends to the legs or forearms, at first in paroxysmal attacks, not very severe. The tendency is for the pain to become constant and more severe during the course of this extremely chronic disease. If the legs are involved there is intermittent limping.

This stage may last for several years and if treatment is begun early and the cause (tobacco) removed, there may be an arrest at this stage; otherwise the symptoms of interference with the circulation become more and more pronounced and slow gangrene supervenes, the general condition remaining fairly good. The arteries and veins are very small and Michels speaks of hypoplasia. The large vessels seem bound to the large nerve trunks. Microscopically the large vessels show thickening and infiltration of their walls, but the intima is slightly, if at all, changed and the closing of the vessels is due to endarteritis and thrombosis.

The diagnosis rests on the changes in the vessels—dorsalis, brachialis, axillaris—no pulse! etiologically, tobacco!

Treatment. Rest in bed, avoidance of moisture, discontinuance of tobacco, galvanism in warm bath and iodine preparations (Erb), injections of fibrolysin two to three times a week (Michels) with well defined gangrene, amputation. Recently Weittings of Constantinople proposed to turn arterial blood into venous channels, joined the arteria femoralis to the vena femoralis and stopped the gangrene! The operation, however, is a delicate one and we await further trial of it. (*Klinische Jahrbuch, Band 21, Heft 4, Referat in Wiener Klinische, Wochenschrift, No. 3, 1910.*)

W. J. B.

#### TREATMENT OF GASTRIC ULCER.

According to James Craig (*Brit. Med. Jour.*, Jan. 29, 1910), there is a greater divergence of opinion between the surgeon and the "physician" in the British Isles than exists in this country in regard to the treatment of gastric ulcer. The surgeons generally holding, as in this country, that it is practically always a surgical disease while the extreme general practitioner would only call a surgeon in case of perforation or possibly of extremely severe hemorrhage.

He thinks that the more observing men on both sides are coming to better understanding of each other and to a more nearly identical position—the surgeon agreeing that acute ulcer that does not bleed excessively and many chronic ones that cause no obstruction of the pylorus, very properly belong to the domain of the medical man; while the latter concedes that an occasional acute case which shows great tendency to hemorrhage and most chronic cases demand surgical treatment. He personally thinks that few acute cases require surgical intervention and that the chronic ones which are not causing obstruction and dilatation should be given a trial on medical treatment. He looks upon gastroenterostomy, theoretically speaking, as a most illogical and unscientific procedure and thinks that the ulcer should be excised when feasible, but very frankly admits the good practical results in gastroenterostomy and thinks the objections are more apparent than real since it is fairly definitely proven that most of the food still passes by the natural route and not by the new opening. It also is proven that it reduces the hyparchlorhydria by some means.

He follows largely the Lenhartz plan of medical treatment—i. e., rest in bed, ice cap to epigastrium, increasing and frequent feeding of foods rich in proteid, such as milk, raw egg and, a little later, scraped meats, rice, butter, sugar and finally at the end of four to six weeks, gradual return to regular diet. Bismuth is also given in large doses and he adds the dried sulphate of iron in ten to thirty grain doses. Four weeks' rest in bed is an essential element of the treatment.

O. M. G.

#### NOTICE.

The list of volunteers for the program of the coming meeting of the State Society is larger than has usually been the case in past years. Members who desire to prepare a paper for this meeting should send in their names to the secretary without delay.

**SURGERY.**

Edited by  
Haskell M. Cohen, M. D.,  
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**METHOD OF SPLINTING SKIN GRAFTS.**

Dr. John Staige Davis (*Bulletin of the Johns Hopkins Hospital*, February, 1910) has after experimenting with various materials selected a course mesh net such as is used for curtains. It is made of loose woven flat bars of cotton thread surrounding openings about one centimeter in diameter. To increase the body of the fabric, he soaks the material in a rubber solution made up of pure gutta-percha from 15-30 parts (depending on the stiffness of the material required), chloroform 150 parts, and then allows the chloroform to evaporate. The material then has enough stiffness to make a very satisfactory splinting material for the skin grafts.

*Sterilization Before Application.* Cut pieces as large as may be desired and separate with one or two thicknesses of gauze. Place in a sterile jar filled with 1:1,000 bichloride of mercury. Change solution three times with twelve hour intervals and finally allow the material to remain permanently in 1:1,000 bichloride of mercury. Change solution three times with twelve-hour intervals, and finally allow the material to remain permanently in 1:1,000 bichloride solution.

*Technic.* Take the mesh out of bichloride solution, rinse in sterile salt solution and dry with sterile towel. The material is applied and placed snugly down on the grafted area and surrounding skin or granulations. With this mesh in place the grafts can be observed from time to time with little or no danger of displacing them. First dressing is made from thirty-six to seventy-two hours after operation. The mesh, however, is left in place from four to ten days and then can be re-

moved without any difficulty. Any type of dressing may be used over this material.

The advantages of this method are: (1) That this splints the grafts without too much pressure and is easy to apply and to secure in place. (2) It does not adhere to the grafts or granulations. (3) It allows the free escape of any secretions that may form and thus prevents maceration. (4) The progress of the healing may be observed at any time without danger of displacing the grafts.

F. W. B.

**EXCISION OF THE RECTUM FOR CANCER BY THE PERINEAL ROUTE.**

Charles H. Peck (*Annals of Surgery*, February, 1910) reports two cases of excision of rectum for cancer by the perineal route. He believes that it is quite possible in the low lying tumors to remove by the perineal route a sufficient length of bowel above the growth and also the lymphatics in the hollow of the sacrum. He feels that the real difficulty is to get beyond the disease in its immediate vicinity. Owing to the proximity of the adjacent organs and the lateral pelvic structures, this difficulty is in no wise diminished when the combined method is used. He believes that an anus at the end site is always more satisfactory than a permanent inguinal anus.

*Operation.* The anus is closed with a purse-string suture of heavy silk. The posterior median incision is carried backward and little beyond the base of the coccyx and prolonged forward on either side of the anus as a shallow Y. The coccyx is excised, the incision deepened and a finger hooked over the posterior border of the levator ani, facilitating its division close to the rectum. The rectum is then freed by blunt dissection in its entire circumference, above the sphincter, below the growth; double ligated with

tape at a safe distance from the growth, divided, and the cut ends seared with the cautery. The peritoneum is then opened, the gut with growth freed from the bladder, prostate, lateral pelvic walls and hollow of sacrum, and drawn down a sufficient distance to allow the proximal segment to come well within the sphincter. This is double ligated above the growth, divided and cauterized. The anal purse-string suture is now removed and the lumen is cleansed with peroxide after which the tape ligature above the sphincter is cut away and the segment with the sphincter is split posteriorly and its mucous membrane is excised. Without removing the tape ligature, the proximal segment is freed through the sphincter and secured with two rows of chromic gut sutures. The wound closure is made by suture of peritoneal edges to the gut wall, of the cut edges of the levator ani muscles posteriorly, and of subcutaneous fat and skin.

Peck believes the perineal route is shorter and less severe than the combined method and is applicable to a large number of low lying growths. F. W. B.

#### A METHOD OF ANASTOMOSIS BETWEEN SIGMOID AND RECTUM.

Donald C. Balfour, (*Annals of Surg.*, Vol. LI., No. 2), describes W. J. Mayo's method of anastomosis following resection of the lower sigmoid for tumors at or near the junction of the rectum. The steps are as follows:

1. High Trendelenberg position, and a long median incision.
2. The intestines are packed off above, leaving the lower sigmoid exposed in the pelvis.
3. Liberation of the affected portion of the bowel by lateral incisions through the peritoneum, and a semilunar incision along the base of the bladder connecting the lateral incisions.
4. Dissection of all the fat and glands

as high as the abdominal aorta, the hollow of the sacrum being swept clean.

5. Ligation of the inferior mesenteric and middle sacral arteries at proper points.

6. Two pairs of forceps are clamped on the bowel at a suitable distance below the tumor and two on the proximal side; the necessary amount of sigmoid with the tumor is excised, and the cut ends sterilized.

7. A three-quarter inch rubber tube is passed into the lower segment of the bowel until the end protrudes through the anus; the upper end with lateral eye is inserted into the proximal end of the sigmoid to a distance of three inches. It is here secured by a transverse catgut stitch one-half inch above the cut end of the intestine.

8. Traction is made upon the end of the tube projecting from the rectum, until the cut ends of the bowel meet, and the anastomosis is made by interrupted through and through chromic catgut sutures with careful coaptation of the mucous membranes.

9. Traction is again made upon the tube sufficient to accomplish a half inch intussusception and here a second row of seromuscular sutures is inserted.

10. The defect in the peritoneum behind is remedied by sliding the peritoneum and suturing, and finally the omentum is drawn down over the anastomosis, and if necessary secured by a catgut suture.

11. The abdominal wound is closed in the usual way, drainage being provided by two wicks, carried down on each side of the anastomosis into the hollow of the sacrum. The rubber tube remains in position six days, until the catgut suture is absorbed. The abdominal drains are loosened on the fourth to the sixth day, but not removed for a week, as a temporary fistula sometimes occurs. H. C.

## GYNECOLOGY AND OBSTETRICS.

Edited by  
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NITROGENOUS METABOLISM IN PERNICIOUS  
VOMITING OF PREGNANCY.

Underhill and Rand (*The Archives of Internal Medicine*, Jan. 15th, 1910), in an excellent article state that they are forced to the conviction, that the lack of food will suffice to account for the urinary picture present in the condition known as pernicious vomiting of pregnancy. Contrary to the opinions expressed by Stone, Edgar, and Ewing and Wolf, the urine fails to reveal adequate evidence of either suboxidation or deficient desamidation. A theory like that of Williams that when the ammonia reaches 10-15 per cent of the total nitrogen, the patient is in grave danger, cannot be accepted as a diagnostic measure. One must not consider only the percentage value of urinary components. Of greater significance is the absolute value of the different forms of nitrogen; and the normal absolute, and relative variations possible should receive due attention. No figures are of great significance without due consideration of the amount and character of the food ingested.

Inanition tends to change the absolute as well as the relative quantities of urea nitrogen and ammonia nitrogen, and Underhill and Rand have failed to discover in cases of pernicious vomiting reported, any more significant perversion. Ewing, the exponent of the deficient desamidation theory, inclines strongly to the view that the urinary findings in pernicious vomiting and inanition are quite distinct, that in pernicious vomiting there is a high undetermined nitrogen, inconstancy of acidosis, and a high total ammonia without acidosis. The existence of the first named factor Underhill claims he has not established and presuming the term

"acidosis" to mean the presence of acetone compounds, at its test its significance is slight and its appearance governed entirely by the character of the food intake, arising from insufficient carbohydrate supply to the body. The third factor, the occurrence of high total ammonia without acidosis is worthy of careful consideration, the absence of acetone bodies is, however, no proof that acidosis does not exist; that the high ammonia may not be united with some other perhaps hitherto unconsidered acid, perhaps lactic acid which has been found to arise from inanition.

In pernicious vomiting of pregnancy where inanition is a significant factor the administration of energy yielding food stuffs is of greater value than the giving of foods rich in nitrogen. The body is capable of furnishing the small amount of nitrogen requisite for nutritional rhythm, but in the absence of carbohydrate energy yielding substances present in the body are difficult of utilization. Underhill and Rand therefore suggest the employment of dextrose solutions by the Murphy drop method rather than the usual albumin solution which is in all probability not absorbed, and for which the body has relatively little need.

Carbohydrate supply is apparently the factor determining the relative output of urea, and ammonia, since in pernicious vomiting of pregnancy, as in inanition the administration of this substance by mouth or by rectal enemata is followed by a distinct tendency toward resumption of the normal elimination of the compounds.

A clinical report in abstract of four cases with careful and complete analyses of the urine from day to day follows, showing the absolute and percentage amounts of the different forms of nitrogen and the effect of supplying carbohydrate through dextrose enemata. C. B. I.



#### ABDOMINAL MYOMECTOMY FOR LARGE UTERINE FIBROIDS.

Kuhn and Frick (*Am. Jour. of Obstetrics*, Sept., 1909), write that from review of the recent literature and from personal experience, they are convinced that simple extirpation or myomectomy should take a wider field. It leaves the uterus intact, and capable of pregnancy (Winters and Noble's statistics show 10 per cent of pregnancies in 94 cases), it conserves important rectal and bladder supports, vaginal hernia and general visceral prolapse into the empty pelvis as well as secondary atresia of the vagina are not present, the climacteric is not precipitated, the operation is rapid and with little loss of blood, and because of the high percentage of malignant disease of the cervix following supra vaginal hysterectomy myomectomy should be considered.

The great objection lies in the fact that not knowing the etiology of myoma, the chances of its recurrence are not known though this factor would appear to be slight inasmuch as A. Martin had but two cases in ninety-six, C. P. Noble none in sixty-six cases and the German statistics show but 6.4 per cent of recurrences.

Another important desideration is the danger of over-looking malignant diseases of the body of the uterus. It is known that fibroids bear some interrelationship with carcinoma and sarcoma.

A description of the technique of the operation and a report of ten cases follows—the cases showing a good variety of fibroids and with excellent post operative results.

C. B. I.

#### NOTICE.

The constituent societies will please remember that newly elected members shall be reported to the secretary of the state society upon the regular cards provided for that purpose. The names of new members will not be placed on the mailing list of COLORADO MEDICINE until this is done.

#### OPHTHALMOLOGY.

Edited by  
E. W. Stevens, M. D.,  
Denver, Colo.

#### DIABETES IN OPHTHALMIC OPERATIONS.

Chas. S. Bull (*Trans. Am. Oph. Society* 1909), analyses 115 cases on which various operations were performed. Of the 115 operations, sixty-two were cataract extractions, forty were preliminary iridectomies, nine were iridectomies for optical purposes and four were iridectomies for chronic glaucoma.

Of the sixty-two cataract extractions, forty were senile cataracts in diabetic patients and all the patients were 65 years of age or over. These were all extractions with iridectomy and all the patients recovered without any serious complications, though the wound healed slowly in eleven cases. There were no hemorrhages and no sign of infection in any of the cases.

The remaining twenty-two cases were all pure diabetic cataracts; that is, they were cortical cataracts, bluish-white in color and somewhat swollen. The patient's ages varied from 36 to 40 years. In each case before operation, care was taken to reduce the percentage of sugar to a minimum, and as far as possible to eliminate abnormal production—acetone, diacetic acid, and oxybutyric acid. In six of the twenty-two cases there was a somewhat profuse hemorrhage into the anterior chamber, which recurred several times. In two cases there were retinal hemorrhages, which did not recur and were slowly absorbed. In six cases the operation was followed by iritis without much exudation, which was obstinate in resisting treatment, and dissection of the opaque capsules was necessitated in two cases. In the remaining eight cases there were no complications, either at the time of the operation or following it.

In the second list of operations—forty cases of preliminary iridectomy in cataract patients, twenty-two were senile cataracts in diabetic patients whose ages varied between 60 and 68 years, and eighteen were true diabetic cataracts in patients under 40 years of age. In the twenty-two cases of senile cataracts no case of iritis occurred after the iridectomy. In the eighteen cases of true diabetic cataracts iritis occurred in four cases.

Nine iridectomies for optical purposes on diabetics under 40 years of age all did well with one exception in which iritis occurred.

Four iridectomies were performed for chronic glaucoma. Profuse hemorrhage into the anterior chamber occurred in all four cases, recurred several times. All the cases did badly.

Dr. Bull points out that we must carefully differentiate those diseases of the eye which are directly due to diabetes as a cause from those which may occur independently of the disease. He believes the abnormal products of metabolism—acetone, diacetic acid and oxybutyric acid seriously complicate the prognosis, and must as far as possible be eliminated before any operation is undertaken. The prognosis does not depend upon the percentage of glucose in the urine, but on the degree of acid intoxication. E. W. S.

#### THE PREVENTION OF PANOPHTHALMITIS.

The present treatment of those infections of the eye-ball which may end in panophthalmitis may be briefly stated; (1) Cauterants to the wound, as carbolic acid, nitric acid and the cautery; (2) sub-conjunctival injections of bichloride of cyanide of mercury; (3) the introduction into the anterior chamber of iodoform rods (4), the injection into the anterior chamber of bichloride of mercury solu-

tion (1:3000), formalin,  $\frac{1}{4}$  per cent, or argyrol, 2 per cent to 50 per cent.

Schirmer, during the past ten years, has treated 157 infected eyes following perforating wounds, by the use of mercury in full physiological doses. In a total of 50 cases, in which the abscess was visible as a yellowish or grayish reflex from the vitreous, or the abscess was found on enucleation, 48 per cent of these cases had to be enucleated; of the remaining 52 per cent Schirmer reports perfect recovery of 36 per cent.

The bacterial and serum therapy of infected wounds of the eye-ball are at present in the experimental stage, according to the recent reviews on the subject by Prof. Akenfeld, E. E. Irons and P. J. Hay. As to the vaccine treatment, Hay states "it is only applicable by itself to chronic or subacute cases, because a certain length of time—on an average, a week or two—needs to elapse before the protective substances against the disease are produced in quantities sufficient to be of any use." From the serums (passive immunization) much effective aid is promised. Some discussion has lately arisen as to the relative value of *specific* and non-specific serums. Darier, Von Hippel, Deutschmann and others, claim that just as good or better results are obtained by the use of non-specific serums, or with specific serums used for affections for which they are not specific.

On the other hand, Prof. Akenfeld insists that specific serums for each infection should be used so far as possible. He doubts the accuracy of many of Deutschmann's observations and ridicules the idea that it is not feasible to discover the organism at the basis of different infections.

Locally, the continuous use of ice pads in any injury of the eye having a tendency to suppuration, has about supplanted the hot formulations so generally used a few years ago. E. W. S.

# Constituent Societies

## BOULDER COUNTY.

The regular monthly meeting of the **Boulder County Medical Society** was held Thursday evening, February 3, 1910.

In the absence of the president and vice-president, the secretary acted as presiding officer. Present were Drs. Burnett, Spencer, C. Giffin, Geo. Cattermole, Chas. Cattermole, Rodes, Wolfer, Campbell, Reed, Trovillion, Gilbert and Gillaspie.

Clinical cases were reported by Drs. C. Giffin, Spencer, Rodes, Geo. Cattermole and Gilbert.

Dr. E. B. Trovillion gave the address of the evening on "Anatomy of the Liver and Gall Bladder."

Drs. A. G. Walker, of Gorham, and R. E. Morris, of Longmont, were elected members of the Society.

A bill of \$2.00 was allowed for post cards and postage.

C. GILLASPIE,  
Secretary.

## DELTA COUNTY.

At the annual election of the **Delta County Medical Society** the following officers were elected:

President—H. A. Smith, Delta.

Vice-President—J. T. Myers, Hotchkiss.

Secretary-Treasurer—Virgil Thompson, Hotchkiss.

Censors—A. E. Miller, Austin; L. A. Hick, Delta; H. W. Hazlett, Paonia.

The **Delta County Medical Society** convened for its regular session February 25, in the office of Dr. Burgess, Delta.

Minutes of last meeting were read and approved.

Present, Drs. Hazlett, Hick, Bowie, Claybaugh, Burgess, Burgin and Smith. Visitors, Drs. Day, Kinsley and Allen.

The resignation of Dr. Thompson as Secretary-Treasurer was presented and accepted. Dr. Bowie was elected to succeed Dr. Thompson in office.

Dr. Smith read a paper on "Chronic Epiphyngal Inflammations" and exhibited a clinical case. The paper was discussed by Drs. Hazlett, Claybaugh and Burgess.

Dr. Burgess exhibited a case of **Traumatic Neuritis**.

Discussion was general.

Adjourned to meet at Delta next month.

MORRIS R. BOWIE,  
Secretary.

## DENVER COUNTY.

The **Medical Society of the City and County of Denver** was called to order Feb. 1, 1910, at 8:15 p. m. by Dr. C. B. Van Zant, president.

Dr. J. A. McCaw exhibited a patient with rodent ulcer, in which there was no involvement of the glands, although the process had been in existence at least twenty years. Dr. J. D. Gibson discussed the case, remarking that he differed in the diagnosis but agreed in the

prognosis. He thought that if it were a carcinoma at all that it was of the squamous variety.

Dr. R. C. Baker was then elected to membership.

The president announced the following standing committees:

Reception—Drs. J. E. Courtney, H. M. Cohen and Elsie Pratt.

Membership—Drs. A. H. Williams, R. W. Arndt and Mary Hawes.

To Confer with Pharmaceutical Society—Drs. R. G. Morrison, R. Albland, R. T. Ramsey.

Public School Instruction—W. C. Bane, R. Levy and D. H. Coover.

Dr. P. Hillkowitz read a paper on "Tuberculin Therapy" and the discussion was opened by Dr. W. N. Beggs, who indorsed the use of tuberculin, advised waiting to see what the climate would do for the patient in order to be able to have an index of the value of tuberculin. He objected to its use in hemorrhagic and rapidly progressing cases. He believes that the advanced cases should not come to the office to take the treatments. Dr. S. Simon advised that treatments should not be given every other day on account of possible cumulative effect. He believes that the patient may be auto-infected by coming to the office for treatment. Some of the old dilutions become inert and he advises that the physician make his own so that they will be fresh. He does not believe in the indiscriminate use of these preparations by the general practitioner. Dr. C. Tausig cautioned against attributing the good effects of climate and other sources of improvement to the tuberculin. He has the patient note the amount of cough, expectoration, etc., on a chart. He thinks patients follow the routine treatment better when using the tuberculin than when not. He thinks that the physician should observe the patient at least a month before giving the tuberculin. Dr. B. Oettinger asked the speaker whether the beneficial effects were as frequent in pulmonary tuberculosis as in the localized form in bones, etc. Wright does not have good results in the former form and seldom uses more than 1-2000 mg. Usual dose 1-4000 mg. The mixed infection cases should have a secondary vaccine. Dr. Hillkowitz closed the discussion.

Dr. H. G. Wetherill exhibited the **Downe's clamp for haemostasis**, spoke of its limited usefulness, emphasized its use in cancer of the uterus, mentioned that it devitalized the tissues, that hemorrhage is impossible after its use, that he had seen some cases of thrombosis following its use and thought that it might be due to the method.

Dr. Z. von Dworzak then read a very interesting paper on **lumbar and rachianaesthesia**. Dr. C. G. Parsons opened the discussion.

The society then adjourned. Present, 80.

The society was called to order by Dr. C. B. Van Zant, Feb. 15, 1910, at 8:15 p. m. in the Academy of Medicine.

The minutes of the preceding meeting were read and approved.

Dr. Mary E. Bates showed a patient weighing 280 pounds, who had fallen down stairs and broken her humerus. Dr. Bates exhibited an X-ray plate showing that the anatomical result had been good and showed that the patient had excellent use of the arm. She also spoke of another patient with a scoliosis, in whom the result had also been good.

Dr. Moleen exhibited a patient forty-two years old, who had been in the County Hospital three years ago with a beginning specific thrombus, and now had a contracture of the arm. There was a history that someone had made an incision and bandaged the arm evidently with the intention of curing the condition by suggestion. When the splints were taken off the condition had returned. Dr. Moleen believed the present trouble to be an hysterical contracture.

The committee on library accommodations reported, submitting two plans: 1st, that the society should build a home for the library and 2nd that the society accept the proposition of Messrs. Gano-Downs, who offered to house the library and furnish a place for the society to meet in the new building to be constructed on the corner of 16th and Court Place, provided the society would indorse the proposition and assist in filling the building with members of the society. Dr. C. B. Lyman moved to accept Gano-Downs' proposition. It was seconded by Dr. Blickensderfer. In the discussion Dr. Levy stated that he thought that the society should not bind itself and that the only way that the proposition could be carried out was by a personal canvass. Dr. Bane said that he had been surprised to find how many physicians were interested in the proposition, and thought that some one outside of the society should do the canvassing. Dr. Sedwick suggested that those in the building pay the rent for the library, indirectly. Dr. Collins thought that some building should be found where we could obtain an option to buy. Dr. Van Zant on request stated that he thought that either plan offered a solution of the problem. The motion to adopt Gano-Downs' proposition was then carried.

Dr. Moleen moved to reconsider which was carried. He then moved that the subject be referred back to the committee, to report at the next meeting. It was amended that the committee be requested to report what Gano-Downs were able to do in the meantime, that they consider additional propositions, and that a notice be printed on the programs. Dr. Grant objected to referring the matter back to the committee, and that the society should become agents for Gano-Downs. Dr. Blickensderfer suggested that if the society discharged the committee at this time there would be no one to report to Gano-Downs, and that they were at least due a courteous answer. Dr. Garwood suggested that we find if such an action on the part of the society would bind the society legally and suggested that legal advice be sought. Dr. Lazell moved as a substitute motion for all before the society that the subject be laid on the table, to be made the special order of business at the next meeting. This was carried.

Dr. M. E. Preston then read a paper, entitled, "Some Points on Fractures and Dislocations from the Elbow to the Wrist," illustrated by the stereopticon. The discussion was opened by Dr. L. Freeman, who also showed an instrument devised by himself to introduce the screws into the two fragments, without making a large incision. The society then adjourned. Present, fifty.

E. W. LAZELL,  
Secretary.

#### EL PASO COUNTY.

The regular monthly meeting of The El Paso County Medical Society was held at the Antlers Hotel on the evening of February 9th. The meeting was well attended by members and we had the pleasure of entertaining five visitors.

The minutes of the last meeting were read and approved. Dr. J. H. Brown was elected to membership in the society. He has recently returned from Europe where he studied in some of the hospitals in Germany and has now opened an office in the First National Bank Building, Colorado Springs.

A committee was appointed on motion by Dr. Stough to confer with the city commissioners in regard to allowing physicians to exceed the present speed regulations in their automobiles.

A communication from the Chamber of Commerce requesting the committee appointed last year to edit the booklet proposed by the Chamber of Commerce, advertising the Pike's Peak region as a pleasure and health resort be continued, was read. On motion of Dr. Gillette, the committee was continued and the executive committee of the society added to the standing committee.

The president then appointed the following standing committees:

Milk Commissioners—to serve for three years—Drs. Stough, Dennis, Hanford and Watt. The balance of the Commission are: Drs. Swan, Gardiner, Hoagland, Magruder, Webb, McClanahan, Martin, L. H. McKinnie.

Library Committee—President and Secretary, Drs. Brown and Boyd.

Program on Scientific Work—President, Drs. Scully and Perkins.

Social Committee—Drs. Williams, McConnell and Blackman.

Public Health—Drs. Gillette and Grover and E. L. McKinnie.

The committee to co-operate with a similar committee from the Dental Society, on the question of "Brown Stain on Teeth"—Drs. Swan, Hanford, Neeper, Hoagland and Lennox.

Dr. R. V. Witter of Fountain, Colorado, reported a case of ruptured urethra.

Dr. E. L. Timmons exhibited a shot gun with a rupture of the left barrel. This gun upon being fired had exploded at exactly the proper point to very seriously lacerate the left thumb of a boy who was out hunting rabbits. The question of gun shot wounds was brought up by Dr. Timmons and discussed by Drs. Stough, Gillette, Webb and Martin.

Dr. Henry Sewall of Denver then read a very interesting and exhaustive paper on the subject of "Modern Views on Irregular Heart Beat."

The paper was very much appreciated by the members of the society and was fully discussed by Drs. Boyd, Schneider, Dupuy, Martin and Sewall.

The literary part of the meeting was then brought to a close by a very instructive paper on "Electro Therapeutics" by Dr. B. B. Grover. Discussed by Drs. Martin and Grover.

After a vote of thanks to Dr. Henry Sewall for his kindness in presenting them with his paper, the society adjourned.

L. H. M'KINNIE,  
Secretary.

#### LARIMER COUNTY.

The Larimer County Medical Society met in the Y. M. C. A. Building, Feb. 2, 1910. There were present: Drs. Winslow, Dale, Taylor, Upson, Rew and Pichugin.

The subject for the evening, "Normal Labor," was opened by Dr. Dale, who called attention to the method of handling a case from the time the woman appeared at the physician's office or he made his first examination until the close of post partum convalescence. He entered quite minutely into methods of examination of the case, methods for insuring asepsis and the manner of conducting an ordinary case and called on the members present to discuss the question and give their methods of managing these cases. All present took part in the discussion and many valuable points were brought out and the meeting proved to be a very interesting and instructive one. Adjourned.

E. STUVER,  
Secretary.

#### MESA COUNTY.

A regular meeting of the Mesa County Medical Society was held in Grand Junction on the evening of February 21. The program was a paper by Dr. A. G. Taylor, upon the symptomatology, diagnosis, and treatment of pneumonia in children, and a clinical case by Dr. C. N. Needham.

The Post-Graduate School is being held separately from the Medical Society this year; we have a good weekly attendance and much interest is displayed in the meetings.

The trial of D. B. Messenger and wife, Christian Scientists, for neglect of their children came to a sudden end when the state rested its case, and after Drs. Finney, Ragsdale, Edwards and Farthing has been cross examined by the defense. Dr. Ragsdale, who was called to see two of the children just in time to sign death certificates, was on the stand five and one-half hours. The defense refused to put a witness on the stand. The court had issued an order putting Dr. Farthing, county physician, and a nurse in charge of the fourth child, who was found to be seriously ill with diphtheria and had been sick seven or eight days with no medical care. This child made a good recovery, while three had previously died, each having been seen by a physician too late to do anything for them. Judge McDaniels, who tried the case, has not yet rendered his decision, having taken the matter under advisement.

## Other Societies

### DENVER CLINICAL AND PATHOLOGICAL SOCIETY.

The regular monthly meeting of the Denver Clinical and Pathological Society was held in the Stedman Building, December 10, 1909, Drs. Powers, Pershing, Bonney, Packard and Childs entertaining. The president, Dr. Childs, presiding. The minutes of the last meeting were read and approved.

Dr. Levy exhibited a patient presenting difficulties in diagnosis between syphilis and tuberculosis. The patient, a boy of fifteen, was sent to Colorado for tuberculosis. He was found to have enlarged glands under the angle of jaw, lungs negative, and with extensive inflammatory involvement of the left side of the septum which might have been diagnosed as syphilitic lues or tuberculosis. Clinically, however, it did not seem to be syphilitic as anti-syphilitic treatment was used with no response at first. He exhibited a loss of nasal bone. He also at the age of one week had lost one eye from ophthalmia neonatorum, while the remaining eye was affected by horizontal nystagmus. Under larger doses of the K. I. (about 100 grains) the boy had shown some improvement. Discussed by Drs. Beggs and Waxham, Grant, Black, Pershing. Dr. Levy in closing stated that the patient had tertiary ulcers of the nose at the age of fourteen, and explained the difference clinically between secondary and tertiary manifestations, the ulcer in the former being superficial, in the latter deep.

Dr. Freeman exhibited a tumor removed from the lower inner end of femur which had existed for eight years with no pain. No attempt at classification of the mass had yet been made. A marked feature of the case was the great muscle increase in the size of the thigh while the patient in other parts of the body was quite thin.

Dr. Kenney exhibited the spleen of a male thrown by collision with a street car, the man landing on his left shoulder, the force of the fall causing a complete rupture in the long axis and a partial transverse rupture.

Dr. Perkins reported the case of a male with traumatic peritonitis, showing no external evidence of injury, who on operation showed a large tear in the illium.

Dr. Hill reported the case of a woman who contracted gonorrhoea from a divided riding skirt borrowed from a friend. Case of pyloric spasm in a male suffering from retention of food in the stomach. There was a history of gastric ulcer and the patient had lost twenty pounds in weight. With rest from business and the administration of strontium bromide the man gained eight pounds. Discussed by Drs. Sewall, Hall, Jayne and Taussig.

Dr. Grant reported the case of a male of twenty-five with a gunshot wound of the head involving the tip of the mastoid, the petrous portion of the temporal bone, and causing facial paralysis as well as total destruction of sense

of hearing in right ear with complete obliteration of the canal. For the relief of the paralysis of the face and tongue union was effected between the stump of facial and spinal accessory, also the upper branch of the spinal accessory and the descendens hypoglossi. Dr. Grant exhibited photographs of the patient before the operation and also four months subsequent to same, the latter showing marked improvement in motion of right side of face. Discussed by Dr. Rogers, also by Dr. Freeman, who thought the hypoglossal nerve better than the spinal accessory for union with the facial nerve, and that atrophy of tongue can be avoided by uniting the stump of the hypoglossal with the one on the other side. In his opinion it is better to not divide the facial nerve as it might regain a portion of its power in time, the nerve being split instead. Also that division of the spinal accessory may not cause paralysis of the shoulder muscles. Drs. Sewall and Bancroft also participated in the discussion, the latter in answer to a question from Dr. Grant stating that Dr. Cushing does not split the spinal accessory nerve dividing it instead, and Dr. Grant who said that section of the spinal accessory was as certain to produce paralysis of the trapezius, as section of facial would produce paralysis of face.

Dr. Powers reported the following case of the relapse in scar seventeen and one-half years after removal of a cancer of the breast. The primary operation was done on April 14th, 1889, and was of the Volkmann type, removal of the breast with axillary contents. Microscopic examination made by Dr. Ferguson, Pathologist to the New York Hospital, showed the growth to be due to scirrhus cancer. The axillary glands were not malignant. The patient was carefully examined every three or four months after the operation. There was no recurrence until December, 1907, at which time a small hard nodule was found at the middle of the scar. This was removed by Dr. Bull in New York and found on microscopic examination to be carcinoma. Dr. Powers was asked to see the patient while in New York in June in 1909, and found a further scar near the place where the little lump was removed in 1907. This second lump was taken out by Dr. J. A. Blake and microscopically showed cancer of a relatively mild type. Dr. Powers stated that the case was exceptional in that a relapse took place in the scar between seventeen and eighteen years after primary operation. He further called attention to the importance of carefully examining these cases at regular intervals every few months after any operative procedure. Discussed by Drs. Hall and Sewall.

The society then adjourned. Members present, 33; visitors, 2.

The regular monthly meeting of the Denver Clinical and Pathological Society was held at 1405 Glenarm Place, January 14, 1910, Drs. Delahanty, Van Zant, Hickey, Hillkowitz and Tausig entertaining. Owing to the arrival in Denver of a new member of our fraternity, who gives promise of becoming a great and shining light in the X-ray field, namely, Samuel Beres-

ford Childs, Jr., the president, appreciating his responsibility in the matter, and as presiding officer of this distinguished body, deemed it incumbent upon him to extend a cordial invitation to the young visitor to abide under his roof and partake of such refreshment as befitted his age and station. In his absence the second vice-president, Dr. Wetherill, was called to the chair. The minutes of the last meeting were read and approved with corrections.

The membership committee reported the names of Drs. Oliver, Lyon, S. Fosdick Jones, E. A. Scherrer, C. E. Walbrach, L. E. Lockard, J. C. Todd and G. A. Moleen as having been elected to membership in this society. Dr. Powers moved that the society endorse the selections reported by the committee, and it was so voted unanimously, and the secretary instructed to send notice to the new members of their election.

Dr. Stover exhibited skiagraphs of (1) osteochondrosarcome, (2) transposition of viscera, (3) four pictures of hour-glass contraction of stomach, congenital, showing the passage at different intervals of bismuth from the stomach into the duodenum, (4) lateral view of neck showing a bone which had been swallowed and which had lodged opposite the cricoid cartilage. The last case was discussed by Dr. Levy who exhibited the bone which had been removed from the upper third of the esophagus. Dr. Levy also presented the patient whom he presented at the last meeting as having treated for congenital syphilis, showing the results for an operation for the removal of necrosed bone from the nasal floor. Also foreign bodies removed from the nose and ear of several different cases consisting of piece of lettuce from nose, feather from membrani tympani of ear, "fox-tail" from ear, bean from nose of child, water melon seed, wool tick, etc. Drs. Bonney and Hall discussed the skiagraphs of the hour-glass contraction of stomach exhibited by Dr. Stover.

Dr. Hill further reporting on the case of gonorrhoea by indirect infection reported at the last meeting, quoted from Park's "Bacteriology in Medicine and Surgery," page 526, as follows: "The gonococcus has but little resistant power against outside influences. It is killed by weak disinfecting solutions, and by dessication in thin layers. In comparatively thick layers as when gonorrhoeal pus is smeared on linen, it has lived for forty-nine days, and dried on glass for twenty-nine days." Dr. Hill also reported the case of a male of sixty-five years with ascities, poor circulation and low arterial pressure, passing 25 c. c. urine in twenty-four hours. A provisional diagnosis of thrombosis of the portal vein due to low blood pressure was made.

Dr. Powers reported the case of a young man who was informed by Dr. ——— that he was suffering from stricture of the urethra. A sound was introduced into the bladder and the prostate massaged. The young man became ill the next day, had bloody urine and great pain. In three days he returned to Dr. ——— who reintroduced the sound causing increased bleeding, a large tender swelling extending to the umbilicus resulting. A supra-public opening was made, the ruptured vessel found at the

trigone and the bleeding controlled by the use of one-half ounce of adrenalin 1-1000 and gauze packing. Recovery.

Dr. Freeman called attention to a method for cleaning out the bladder by connecting a large metal plunger syringe with the catheter, thus using suction. Also a method of reinforcing gauze packing by applying an Esmarch bandage around pelvis. In discussing Dr. Powers' case Dr. Bergtold related the history of a like case in which his post-partum experiences coupled with an enforced course in medical jurisprudence; which course, though reducing his income materially for a period of time, yet was invaluable in leading him into the bright light of conservatism in public statements.

Dr. Hershey reported a case of supposed tuberculosis which rapidly improved under the use of iodide of potassium. Discussed by Drs. Waxham and Beggs.

Dr. Sewall reported the case of a man of twenty-three with a slight tubercular involvement of the right lung, and pain in left chest. Examination disclosed a complete left pneumothorax. Five days before death there were noticed bony projections uniting the second and third ribs, the seming enlargement being due probably to the collapse of lung.

Dr. Bergtold reported five cases of atypical gout in both men and women, between the ages of fifty and sixty, the urine containing urates uric acid, etc., while deep seated phlebitis occurred in the men, and the oldest women, and involvement of the iliac down in the younger women. Discussed by Dr. Hill, who considered the thrombosis the cause of uric acid rather than the effect of same, and by Dr. Sewall. Dr. Bergtold said the salicylates did not benefit these patients, the treatment most helpful being plenty of water and a milk diet.

Dr. Perkins reported a case of gall stones in the common and hepatic ducts, also four cases of perforated gastric ulcer, the perforation in three of these cases occurring in the anterior wall near the duodenal side. Two had been perforated for seven hours and one for twelve hours. Recovery. Discussed by Dr. Rogers.

Dr. Rogers reported the case of a woman, a sufferer from goitre, who had puerperal convulsions to the number of forty, she being unconscious for a period of three days. Later she complained of great pain in the shoulder which on examination was found to be dislocated. Recovery.

Dr. Beggs reported the case of a male, right lung tuberculous, injured by a street car. Complained of pain on right side of sternum with swelling and crepitation, no pneumothorax or pleurisy.

Dr. Freeman introduced the subject of the frequent occurrence of inflammation of the bladder after operations on the abdomen in our hospitals, and cited the numerous ways by which infection may be transmitted by catheter. As a means of prevention Dr. Freeman suggested that the use of the catheter be avoided whenever possible before operation, as well as needless catheterization after operation. When the

use of the catheter is imperative the use of large quantities of water is better than any other preventive agent. Discussed by Drs. Hershey and Sewall.

Dr. Kleiner reported two cases of corrosive sublimate poisoning, one living ten days without salivation, the second dying after taking a 7:7/10 grain tablet one-half hour after breakfast. Discussed by Drs. Hall, Whitney, Rogers, Bergtold, Stover and Hill.

Dr. Hickey reported the case of a male with a left side abdominal tumor found to be due to a full bladder. Discussed by Dr. Beggs.

The proposed amendments to the by-laws submitted at the last meeting, providing for the insertion of the words "in any society year" after the word "meetings," in Sec. 4, Art. IV of the by-laws, and by adding to the first sentence of Sec. 1, Art. I, "which shall be the society year" were taken from the table and adopted by a unanimous vote.

On request of the society as a whole, the president appointed Drs. Sewall and Kenney a committee on "Ways and Means" with power to investigate the absence of our president from this meeting and apply such remedy which in their judgment might be deemed necessary. Members present, 30; visitors, one.

F. W. KENNEY.  
Secretary.

#### COLORADO OPHTHALMOLOGICAL SOCIETY.

A stated meeting was held at the office of Dr. J. A. Patterson in Colorado Springs, Jan. 15, 1910. The scientific session was preceded by a dinner at the Acacia hotel.

Dr. D. H. Coover presented a case of binocular microphthalmos, with congenital cataract and coloboma of the iris, in a youth of 18. Dr. Coover had needed the cataractous lens of one eye, twice in the past six months, with resulting improvement of vision to 1-35.

Dr. E. R. Neepner showed (1) a case of unusual macular appearances due to old retino-choroiditis, with consequent delicate pigmentary changes in the retina about the macula lutea; and (2) a patient with annular pigmentation of the outer fourth of the optic disks, the condition being strikingly marked in one eye, much less noticeable in the other.

Dr. Patterson presented (1) a well-marked case of retino-choroiditis juxta papillaris in an adult and attributed to measles during childhood; (2) a cured case of bilateral xanthoma, treated between one and two years before, with applications of carbon dioxide snow; and (3) a woman shown to the society a year before on account of a wound of the cornea, ciliary body and sclera, but whose eye was now quiet and possessed of normal vision.

Dr. Jackson gave a talk, illustrated with charts, pointing out the universal application of the incomplete ring as a simple but accurate test of visual acuity. The International Ophthalmological Congress had lately endorsed this test as superior to the test-letters, Arabic numerals or figures usually employed. It could be applied with facility to the literate and the illiterate, to children and adults, and to those

unfamiliar with the language of the examining surgeon or of the test-cards he happened to possess.

The February meeting occurred at the office of Dr. W. C. Bane in Denver. Thirteen Denver members attended, four from Colorado Springs, and one each from Leadville, Boulder and Cheyenne. Two guests were present.

Dr. C. E. Walker presented two cases of advancement of the internal rectus, with relief of divergent squint; and two cases of graduated tenotomy of the superior rectus, with correction of hyperphoria.

Dr. Bane showed a case of persistent hyaloid artery in a girl of fourteen years, and another case, previously reported, in which a piece of steel had been successfully removed from the interior of the eye by the Haab magnet.

Dr. D. B. Strickler presented a child with recently healed extensive wound of lid, sclera and ciliary body, and also a case of opacity of the lens confined to the extreme outer quadrant, and one of radiating lines of opacity of the lens capsule, with posterior synechia.

Dr. W. A. Sedwick showed a man of sixty-five with a dislocated lens, which had apparently slipped through a split in the capsule; both the lens and the capsule showing points or lines of opacity.

Dr. Libby presented a man of sixty with a corneal papillary growth of two years' standing, stationary in size in past three months, and thought to be due to a foreign body lodged in the cornea more than two years before. Subsequently the growth was removed, and Drs. J. C. Todd and J. A. Wilder pronounced it squamous-celled carcinoma.

Dr. G. M. Wright, a visitor, presented a man of sixty-eight with glaucoma and cataract in one eye, the other having been lost from glaucoma for two years before. He asked for suggestions as to surgical treatment.

Dr. D. H. Coover exhibited photographs of a mother and child presenting binocular cryptophthalmos of identical character and degree.

Dr. G. H. Strader reported sympathetic ophthalmitis in a child of eight, a month after a penetrating wound of one eye by a knife. This eye had to be removed, but the other was saved, with greatly diminished vision, after the heroic use of salicylates and usual doses of atoxyl.

Dr. C. M. Hosmer of Colorado Springs was elected to membership.

GEORGE F. LIBBY,  
Secretary.

#### NOTICE.

Those of our readers who are interested in the various forms of physiologic therapy (including hydrotherapy, electrotherapy, massage, hyperemia, etc.) will be glad to know that it is proposed shortly to inaugurate a new journal devoted solely to the delineation of the progress made in these lines of therapeutic endeavor.

The American Journal of Physiologic Therapeutics will be published bi-monthly and the subscription price will be \$1.00 a year. Address letters to 72 Madison street, Chicago.

## Items

Dr. George A. Mathews, of Braman, Oklahoma, wishes to secure a Colorado practice. If any of our readers know of any such opportunity Dr. Mathews will appreciate entering into correspondence with them.

Dr. J. S. Fox and Dr. J. M. Pascoe, of Silverton, were in Denver on a visit for several days.

Dr. E. T. Boyd, of Leadville, attended the monthly meeting of the Colorado Ophthalmological Society in Denver.

On February 17th a new hospital for children was formally opened on Downing street near 22nd avenue, Denver. The hospital has been daintily furnished by private donations secured by the efforts of prominent Denver ladies and is now ready for reception of patients. The staff includes many of the best men in Denver.

The New Exchange National Bank Building has proven a very attractive office place for doctors and other professional men. The following doctors have recently moved in: Geo. A. Boyd, C. M. Hosmer, P. M. Lennox, E. L. and L. H. McKinnie, E. R. Neepser and E. L. Timmons.

Dr. Gerald Webb, president of the El Paso County Medical Society, gave a very beautiful Gridiron dinner at the Antlers to the members of the society on Wednesday, January 12th. The decorations were most unique and the dinner excellent. Many witty "roasts" were served up at the expense of numbers of the guests. There were about 60 present.

Dr. B. P. Anderson left early in January for a visit to Florida.

The many friends of Dr. J. Bidmead Wright and family have been enjoying a visit from him recently. Dr. Wright formerly practiced in Colorado Springs and is now located in New York City.

Dr. Chas. Farthing, La Junta, has been reappointed as County Physician of Otero County.

Dr. and Mrs. S. G. Bonney have gone to Hot Springs, Ark.

Dr. and Mrs. Cuthbert Powell have moved into their new home at 2261 Albion street, Park Hill.

The medical men of Routt county have perfected an organization, electing Dr. J. H. Cole, of Yampa, president; Dr. R. E. Jones, of Steamboat Springs, vice-president; Dr. H. C. Dodge, secretary, and Dr. L. G. Blackmer, treasurer.

Dr. C. N. Needham spent a few days in Denver last week on a combined business and pleasure trip.



Dr. Thos. Purcell left for Erie, Pa., early this month. He expects to engage in the practice of his profession again in that city.

The medical partnership between Drs. Bruce, Trueblood & Spear of Monte Vista has been dissolved, each taking a separate office.

Dr. B. L. Doane has opened a private sanitarium at his residence in Del Norte.

Drs. Melvin & McFadzean of Del Norte have dissolved their partnership, Dr. Melvin returning to California again.

The new hospital at Alamosa built by Dr. Freiberger is about completed. We understand the Sisters of St. Joseph will have charge of this as well as the Del Norte hospital. These Sisters have been doing a great amount of charitable work, especially among the Mexicans, since coming into the San Luis valley.

Dr. Russell was shaking hands with old friends in Monte Vista for a few days.

Dr. C. H. Ehlert, of New Orleans, Louisiana, has located at Fowler, Colo.

Dr. O. W. Swope, of Holly, has been elected president of the Commercial Club at that place.

Dr. E. A. Whitmore, Leadville, in an atavistic mood became possessed of a desire to fly; spent a few days in Denver trying to get pointers and came home well satisfied that he was high enough.

Dr. A. J. McDonald, Leadville, vice-president of the State Society, had for some time been afflicted with ennui and was ordered to try Denver as an anti-ennui-serum. This he did for ten days and completely recovered (exchequer not referred to). Of course the efficiency of a therapeutic measure cannot be based upon the history of one case and we would therefore like to know the experience of others.

Dr. Boyd attended the meeting of the State Ophthalmological Society at Colorado Springs in January, came up to Denver and partook of refreshments with the members of the Association for the Prevention and Control of Tuberculosis and returned to his aerle near Mt. Massive; not for long, however, for on February nineteenth he was again in Denver attending the meeting of the Ophthalmological Society and conferring with the committee on tuberculosis exhibits.

Dr. R. J. McDonald, Leadville, who for a year past has had an office on Harrison avenue, has moved to his residence, corner Sixth and Poplar streets, where he is "at home" at all hours to those sick, afflicted or sore distressed.

Dr. B. F. Griffith, Leadville, head physician of the Women of Woodcraft, was recently elected Post Consul of Silver Camp No. 12.

Dr. Frank Finney will leave in a few days for Oberlin, Ohio.

The City Hospital at La Junta is getting a new coat of paint and varnish inside, the gift of a patient, who gave \$325 for internal repairs.

Dr. W. O. Sheller, P. & S. Chicago '02, formerly of Big Rock, Illinois, has located at Wiley.

Dr. J. H. Smith, of Colorado City, Past Grand Sachem of the Order of Red Men, attended their big meeting in Pueblo, February 23.

Dr. Francis B. Rothrock and Miss Nancy Ewing were quietly married on the afternoon of February 23 in Colorado Springs. They left immediately for California and will return about April first.

Dr. J. D. Burton sustained a broken collar-bone in an automobile accident near Evans, February 23, due to the bursting of the tire when the car was proceeding at a high rate of speed.

Dr. Hubert Work has been elected chairman of the Republican Committee.

The following medical men have been chosen to represent Colorado in the coming Pharmaceutical convention: From the University of Colorado—Dr. C. E. Edson, Dr. A. R. Peebles and Dr. W. N. Jolley; from the Colorado State Medical Society—Dr. E. C. Hill, Dr. G. A. Moleen and Dr. H. T. Little.

The County Commissioners of Denver intend to break ground at once for a large new wing on the east side of the present County Hospital, which it is hoped will give the much needed relief to this over-crowded institution. They also contemplate the removal of all consumptive patients to the County Farm located on the outskirts of the city.

The Metropolitan Realty Company is now breaking ground at the corner of 16th street and Court Place, Denver, for the erection of a strictly fireproof building for "surgeons, physicians and dentists," exclusively. It is planned to be eight stories high, although but five stories will be erected at this time. It is to be strictly first class in every respect and all offices will be supplied with hot and cold water, light, power and compressed air according to the wishes of the tenants, all of whom must be acceptable to the County Medical Society. The County Society will be furnished an ample meeting hall and a library room free of cost. Contracts have already been signed for four-fifths of the rooms and doubtless all available space will be engaged within a few weeks. It is expected that the building will be ready for occupancy by the first of September.

**ASCITIC TREATMENT OF CARCINOMA.**

Dr. Hodenpyl's article in the *Medical Record* is as follows:

About four years ago the writer became interested in a case of carcinoma of the breast in a woman then thirty-seven years of age. The clinical history and the morphology of the tumor were typical of a rapidly growing malignant cancer. In spite of radical operation multiple recurrences appeared in the neck and in the primary scar. After the thorough removal of these, secondary growths appeared which were morphologically typical of rapidly growing carcinoma. Still other tumors developed in the neck and breast, which, owing to local complications and the debilitated condition of the patient, were not removed. Later large tumors developed in the liver which nearly filled the abdominal cavity, followed by the occurrence of excessive chyliform ascites. The prognosis was unqualifiedly bad and the patient's death seemed imminent.

But nevertheless the tumors in the neck and breast gradually dwindled and disappeared. The abdominal tumors gradually grew smaller and became imperceptible, while the liver became smoother and smaller. At length about four years after the first operation the liver is approximately normal in size and position. With the exception of the scars and decreasing emaciation and extreme chyliform ascites requiring frequent tapping there is now no indication of the original disorder.

In his deliberations upon this rare case of recovery from extensive carcinoma, with residual chyliform ascites, the writer was led to weigh the possibility so often discussed, especially in connection with experimental tumors in mice, of the development by the patient of some sort of antibody inimical to the progressive growth and persistence of the tumor cells. The alternative hypothesis, which seemed plausible, was that in the processes of tumor tissue formation disturbance of organic or internal secretions might have occurred, leading to the accumulation or formation of substances antagonistic to tumor cell growth or existence.

The ascitic fluid having been freely placed at the writer's disposal to test these theoretical conceptions, a series of mice, which had developed tumors after the implanting of some of the well known strains of mouse cancer cells, were injected with varying amounts of the ascitic fluid. These injections were made near the tumors, into the tumors and into the body at large. The effect of these injections in brief was to lead to marked necrosis of the tumors, to a noteworthy diminution in their size or to their complete disappearance.

After experimental tests of the harmlessness of the fluid, first in animals, then in human beings, injections of the fluid in cases of carcinoma of various types in man were undertaken. These injections have been made in small quantities near or directly into the tumors or in large quantities into the veins. The general effect of these injections in man has been nearly uniformly to induce a temporary local redness, tenderness and swelling about the tumors,

which soon subside. Then occur softening and necrosis of the tumor tissue, which is now absorbed or discharged externally, with the subsequent formation of more or less connective tissue. In all cases the tumors have grown smaller, in some they have disappeared altogether. In no instance has any tissue in the body other than the tumor shown the least reaction after the injections nor have any systemic effects been manifest even after large venous infusions.

The greater number of the forty-seven cases thus far treated were distinctly unfavorable, many of them hopeless and inoperable. Many of the cases are still under observation by the writer or by other physicians in and out of New York.

The records of the cases treated, the technique employed and the results obtained will be placed at the service of the medical profession as soon as time permits, together with the results of various obvious control experiments which are now in hand under the direction or with the concurrence of the writer. In the meantime this preliminary communication is made, first, in order that the attention of the profession may be called to the possible significance of body fluids from the rare cases of those who have recovered or are recovering from carcinoma; second, to correct the false impressions which may have been conveyed by the premature and unauthorized news items in the daily press, and finally, to secure an opportunity to remind physicians practically interested in this study that the urgency for this treatment of hopeless inoperable cases is hardly just either to these patients themselves or to a method from which it is hoped to secure new resources and new light through deliberate and reasonable test.

It is not my purpose to announce at this time a new cure for cancer but to call attention to the remarkable selective necrotizing effects upon carcinoma cells of the ascitic fluid from a recovered case of carcinoma wherever in the body of the patient this fluid is introduced. The nature and significance and the practical importance of the substances contained in this fluid and the ultimate value of this method of treatment of carcinoma are to be finally determined only by a continuance and completion of the various correlated series of investigations, chemical and biological, now under way, or by such tests as other observers may undertake.

The International Commission on Control of Tuberculosis in Domestic Animals, created at the last session of the American Veterinary Medical Association, held its first meeting recently at Buffalo, N. Y. Dr. J. G. Rutherford was elected chairman and Dr. M. H. Reynolds, secretary. This meeting was necessarily of a preliminary nature. Among other things it was recognized that it should have representation from among the American packers and the American state health officers. It is to be hoped that the activities of this commission may be utilized in harmonizing the questions, still at issue, bearing upon animal and human tuberculosis, especially with regard to the protection of human beings.

## Correspondence

To the Secretary of each State and County Medical Society and Other Interested Members:

At the last meeting of the American Medical Association at Atlantic City the following report of Committee on Miscellaneous Business was adopted: "The committee recommends that the president of this Association appoint a committee of five members to inquire into the desirability and practicability of establishing under the auspices of the American Medical Association a fund for the assistance of physicians disabled by sickness, and for a sanatorium for the treatment of such members of the Association as may be afflicted with tuberculosis or similar diseases; such committee to report to the House of Delegates at the next annual meeting of the Association."

As a basis for wise action the committee urges that the officers of State and County Medical Societies, and others interested in the subject, should at the earliest possible date, forward to the secretary of the committee, Dr. A. C. Magruder, Colorado Springs, Colorado, answers to the following queries, with some account of any special cases that seem to illustrate the need for provision for disabled members of our profession.

1. Is there any provision by your State Medical Society or local society for the care of destitute and disabled physicians and those dependant upon them? If so, how is such care provided?

2. What number of instances of special need for such assistance (or sanatorium treatment) have arisen in your locality within the last five years and what number of your members need such assistance now?

3. About how many members of your County Medical Society are at present afflicted with tuberculosis or similar diseases, or have within the last five years, died or withdrawn from professional work on account of such disease?

It is earnestly requested that this matter be brought before each County and State Society at its next regular meeting, and that the desired information be furnished our committee at the earliest possible date.

Faternally yours,

DR. EDWARD JACKSON, Denver, Colo.

JEFFERSON R. KEAN, Washington, D. C.

A. T. BRISTOW, Brooklyn, N. Y.

H. B. ELLIS, Los Angeles, Cal.

A. C. MAGRUDER, Secretary,

305 N. Tejon St., Colorado Springs, Colo.

It was through efforts on the part of delegates from our Society that this committee was appointed. It behooves us to furnish the committee with all the information possible in order that the contention of our delegates shall be established; namely, that a fund and a sanatorium be established to assist physicians disabled by sickness. If such a sanatorium is decided upon there is a strong possibility of its being located in Colorado.

MELVILLE BLACK,  
Secretary.

## Books Reviewed

**Skin and Venereal Diseases. Miscellaneous Topics.** Edited by W. L. Baum, M. D., and Harold Moyer, M. D. The Practical Medicine Series 1909. Under the general editorial charge of Gustavus P. Head, M. D. The Chicago Year Book, Publishers, 40 Dearborn street. Series of 10 volumes, \$10.00. Single volume, \$1.25.

The present volume contains much of extreme interest relating to recent advances in the diagnosis and therapy of skin diseases. Particular attention is given to the subjects of leprosy and pellagra, there are also some important notes on radio-therapy and actino-therapy and parasitic diseases.

The section on venereal diseases contains many valuable suggestions for the local treatment of the minor troubles and some new ideas in genito-urinary surgery. Syphilis is very fully considered, especial attention being given to treatment and sero-diagnosis.

The section on Miscellaneous Topics is devoted chiefly to subjects of academic and biologic nature, but also contains some good chapters on toxicology and forensic medicine.

A. J. M.

**The Practice of Gynecology. A Text-Book on the Practice of Gynecology.** For Practitioners and Students. By W. Easterly Ashton, M. D., LL. D., Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Fourth Edition. Thoroughly Revised. Octavo, pp. 1099. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$6.50 Net; Half Morocco, \$8.00 Net.

The fourth edition of this well known and justly popular text-book, which has been recently published, contains additions to minor parts of the subject and several chapters have been altered and rewritten in accord with recent developments. The pathology of shock, genital tuberculosis, cystitis and immediate or deferred operation for intra-abdominal hemorrhage from ectopic pregnancy are all carefully reconsidered in the light of the latest opinions and practice. The treatment of peritonitis receives particular attention and the so-called Fowler-Murphy method is given in detail. In fact the work has been carefully revised. It is matter of regret, however, that the treatment of the various infections by vaccines and serums is given no consideration in a work which professes to be quite up to date. These methods of treatment are receiving a large amount of attention by practitioners at the present time and many advantages are being claimed by those who have put them to the practical test. Their value is still subjudice but whatever may be the final outcome students and practitioners alike are now deeply interested and doubtless many readers will be disappointed that the author gives no attention to them. The subject matter is treated in great detail and the work as a whole reflects great credit upon both the author and publisher being as it is one of the very best treatise on Gynecology for both college and practical use.

**A Practical Treatise on Ophthalmology.** By L. Webster Fox, M. D., LL. D., Philadelphia. Professor of Ophthalmology in the Medico-Chirurgical College; Ophthalmic Surgeon in the Medico-Chirurgical Hospital; Member of the Army Reserve Medical Corps, etc. Published by D. Appleton & Co., New York.

This well known work has passed into the second edition, and has been completely revised by the author. It contains six colored plates and three hundred illustrations, many of which are new. The chapters on the development of the eye and the anatomy of the eye are the best we have seen in any book. A larger amount of space than usual is devoted to the bacteriology of the eye. The chapter on "Diseases of the Lachrymal Passages" is especially marked by the description of the operation for extirpation of the lachrymal sac. The author's well known reputation as an operator, enables him to speak authoritatively upon the technique of ophthalmic operations. There are few of the well known operations which have not been changed in many particulars by the author and these modifications stand forth in this book as one of its special attractions. The book in general is praiseworthy and may be said to present the subject of ophthalmology in a thorough, conscientious manner.

The author has always been conspicuous as a leader. His way of doing things is especially his own, and this is noticeable throughout the text. The book will prove of value to the ophthalmologist because it contains so much which is original. It will be found by the general practitioner to contain all that is necessary to familiarize him with the subject of ophthalmology.

M. B.

**The Practical Medicine Series.** Comprising Ten Volumes on the Year's Progress in Medicine and Surgery.

The third volume of the Practical Medicine Series for 1909, under the general editorial charge of Dr. Gustavus P. Head, deals with the departments of eye, ear, throat and nose. The first department is edited by Dr. Casey A. Wood, the second by Dr. A. H. Andrews, and the third by Dr. Gustavus P. Head.

The work is essentially a series of abstracts of some of the papers which have appeared in various journals during the year 1908. In the main, the articles chosen for abstracting seem to have been judiciously selected and the process of condensation carefully done. The work contains much information in a concise form.

In order to show that spitting on the sidewalks is dangerous to health, an investigation has been made by Dr. John Robertson, Medical Health Officer of Birmingham, England, which shows that seven per cent of the "spits" collected in public places contained consumption germs. On the other hand the dust collected from the floors of the cottages of the Adirondack Cottage Sanitarium has been found to be free of tuberculosis germs, showing that a careful consumptive is not dangerous.

## Books Received

**A Manual of Normal Histology and Organography.** By Charles Hill, Ph. D., M. D., formerly Assistant Professor of Histology and Embryology, Northwestern University Medical School, Chicago. Second Revised Edition. 12 mo., pp. 468. Philadelphia and London: W. B. Saunders Company, 1909. Flexible leather, \$2.00 Net.

**The Practice of Gynecology:** A Text-Book on the Practice of Gynecology. For Practitioners and Students. By W. Easterly Ashton, M. D., LL. D., Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Fourth Edition. Thoroughly Revised. Octavo, pp. 1099. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$6.50 Net; Half Morocco, \$8.00 Net.

**Examination of the Urine:** A Manual for Students and Practitioners. By G. A. DeSantos Saxe, M. D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. Second Edition, enlarged and reset. 12 mo., pp. 448. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$1.75 Net.

**A Text-Book of the Practice of Medicine.** By James M. Anders, M. D., Ph. D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine; Medico-Chirurgical College, Philadelphia. Ninth Revised Edition. Octavo, pp. 1,326. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$5.50 Net.

**Text-Book on the Pathogenic Bacteria.** For Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia. Sixth Revised Edition. Octavo, pp. 709. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$3.50 Net.

**Medical Diagnosis** by Charles Lyman Greene, M. D., St. Paul. Third Edition. Philadelphia: P. Blakiston's Son & Company, 1012 Walnut street, 1910. Pp. 725. Octavo. Cloth. Price, \$3.50 Net.

**Diseases of Children.** By Abraham Jacobi, M. D., LL. D. Translated from "Die Deutsche Klinik," under Supervision of Julius L. Saling, M. D. New York and London: D. Appleton and Company, 1910. Modern Clinical Medicine. Pp. 828. Cloth. Octavo.

**A Practical Treatise on Ophthalmology.** By L. Webster Fox, M. D., LL. D. With Six Colored Plates and Three Hundred Illustrations in Text. New York and London: D. Appleton and Company, 1910. Pp. 807. Cloth. Octavo.

**Text-Book of Diseases of the Ear.** By Macleod Yearsley, F. R. C. S. Chicago Medical Book Company, Chicago, Ill. 1908. Pp. 452. Price, \$4.00. Octavo. Cloth.

**The Fluids of the Body.** By Ernest H. Starling, M. D., F. R. C. P., F. R. S. Jodrell Professor of Physiology in University College, London. Chicago Medical Book Company, Chicago, Ill. Pp. 186. Price, \$2.00. Cloth. Octavo. (The Herter Lectures, New York, 1908.)

**The Prevention and Treatment of Abortion.** By Frederick J. Taussig, A. B., M. D. Fifty-nine Illustrations. St. Louis: C. V. Mosby Company. 1910. Pp. 179. Cloth. Octavo.

**Digest of Comments on the Pharmacopoeia of the United States of America and the National Formulary for the Calendar Year Ending December 31, 1906.** By Murray Galt Motter and Martin I. Wilbert. Public Health and Marine-Hospital Service. Pp. 523. Washington: Government Printing Office. 1909.

**Report of the Committee on Ophthalmia Neonatorum.** Presented to the House of Delegates of the A. M. A. at the Sixtieth Annual Session, June 7-11, 1909. Reprinted from Journal of A. M. A., 1909. LII. 2047.

**Influence of the Eye on the Ear Under Normal and Pathological Conditions.** By Dr. Marcel Rollet of Blois. Translated by F. Park Lewis, M. D. Reprinted from Annals of Ophthalmology, April, 1909.

**Simple Refraction For Family Physicians.** By Leartus Connor, A. B., M. D., Detroit, Mich. Reprinted from Journal of A. M. A., 1909. LIII. 1206.

**Accidental Perforations of the Uterus and Vagina.** By H. G. Wetherill, M. D., Denver, Colo. Reprint from Surgery, Gynecology and Obstetrics, September, 1909. Pages 354-356.

**The Present Status of Irrigation and Drainage in Obstetric and Gynecologic Operations.** By Horace G. Wetherill, M. D., Denver. Reprinted from the Journal of the American Medical Association, October 2, 1909. Vol. LIII, pp. 1078-1080. Copyright, 1909. American Medical Association, 535 Dearborn Ave., Chicago.

**I.—The Presence of Tubercle Bacilli in the Circulating Blood in Clinical and Experimental Tuberculosis.** By John F. Anderson. **II.—The Viability of the Tubercle Bacillus.**—By M. J. Rosenau, Treasury Department. Public Health and Marine-Hospital Service. Pp. 42. Hygienic Laboratory. Bulletin No. 57. Washington: Government Printing Office. 1909.

**Biographic Clinics—VI. Essays Concerning the Influence of Visual Function, Pathologic and Physiologic, upon the Health of Patients.** By George M. Gould, M. D. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1909. Octavo. Price, \$1.00. Cloth.

**Soil Pollution and Its Relation to Hookworm Disease and Typhoid Fever.** By Ch. Wardell Stiles, Ph. D., Treasury Department. Public Health and Marine-Hospital Service. Pp. 10. Washington: Government Printing Office. 1909.

**Bulletin El Paso County Medical Society.** No. 4. El Paso, Tex., October, 1909.

**Report of Two Cases of Ectopic Gestation.** By Hunter Robb, M. D. Professor of Gynecology, Western Reserve University; Visiting Gynecologist to the Lakeside Hospital. Reprint from the Cleveland Medical Journal, September, 1908. Pp. 7.

**An Experimental Study on Hemorrhage Following Section of the Uterine and Ovarian Vessels in Dogs, and Its Possible Bearing on Ruptured Ectopic Pregnancies.** By Hunter Robb, M. D., Cleveland, Ohio. Pp. 36. Reprinted from the Transactions of the American Gynecological Society, 1908.

**Skin and Venereal Diseases, Miscellaneous Topics.** By W. L. Baum, Harold N. Moyer, M. D. Practical Medicine Series. 1909. Chicago: The Year Book Publishers, 40 Dearborn St. Cloth. Price, \$1.25. Price of Series (10 Vols.), \$10.00. Octavo.

**Summary of Transactions of the Public Health and Marine-Hospital Service.** Fiscal Year, 1909, and to November 1, 1909. Treasury Department Public Health and Marine-Hospital Service of the United States. Washington: Government Printing Office. 1909. Pp. 16.

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# COLORADO MEDICINE

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Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession will be gratefully acknowledged. The name of the sender should be given.

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VOL. VII.

DENVER, APRIL, 1910

No. 4

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

### A DEPARTMENT OF PUBLIC HEALTH.

We are glad to note definite progress in the movement looking to the formation of a Department of Public Health by our National Government. The wisdom of collecting all the agencies of the government for the protection of the public health under one authoritative and official head has long been most earnestly advocated by the medical profession, and the A. M. A., through its Legislative Committee, has been active in bringing every possible influence to bear to cause its adoption by Congress. It has been officially advocated by the President in his message to Congress and is now being

energetically pressed upon the attention of its members by a Committee of One Hundred, appointed by the American Association for the Advancement of Science, and composed of many of the most prominent and influential scientists and social economists in the country. The more the matter is considered the more importance it assumes, and the conviction is steadily gaining ground that the objects sought to be attained can only be effectively accomplished by the creation of a Department of Public Health, with representation in the Cabinet. Convincing arguments in favor of a Department, rather than a Bureau under some Department, are accumulating and being put forth with increasing authority. Very recently a Bill, known as Senate Bill No. 6049, was introduced by Senator Owen favoring the creation of a "Department of Public Health," and he has since urged

its adoption by the present Congress in a most comprehensive and able speech. The public health and the prevention of disease is receiving an increasing amount of attention in our public press and numerous agencies for this work, supported by large private funds as well as by local and government authority, are being created. This activity should have the encouragement of all, and nothing can make this movement for the public good so effective as guidance by a centralized authority, a Department of Public Health under the United States government. The importance of this matter and the desirability of early and favorable action upon it should be urged upon all members of Congress and by medical men more especially.

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#### NOSTRUM VENDORS.

There is, perhaps, no man lower than the one who for financial gain preys upon the weakness of others and deliberately increases their misery. In the lowest pit among these stands the man who, pretending to cure a drug *habitué*, in reality increases the slavery and in such a manner that nothing but the nostrum he sells will satisfy the victim. This applies *par excellence* to the Habitina vendor, if we may rely upon the *exposé* in a recent issue of the Journal of the American Medical Association. It is there stated that the drug habitue who wishes to be cured, the ignorant sufferer who easily becomes another victim, the malicious criminal—any one may receive through the United States mails, free, enough Habitina—or morphine and heroin—to kill eight men; and at present there is no law which can prevent this. When the inertia of an educated people is at last overcome, surely the first to feel the expulsive pressure of enlightened legislation should be the purveyor of such nostrums at Habitina.

#### THE MESSENGER CASE.

About the middle of December last, the family of D. B. Messenger, residing in La Junta, Colorado, was afflicted with measles. This disease was at that time epidemic in their home town. The disease ran, so far as is known, the ordinary mild course which it does in this climate and altitude. There is no question whatever that this was the trouble although no physician saw them during the earlier stages of the disease. The elder Messengers are devotees of the Christian Science cult, or at least the mother is an ardent believer, the faith of the father seeming to be of a somewhat lukewarm type. On December 20th, the parents called a physician to see their child Rose. Just what prompted them to do this, in view of their faith, is a little uncertain. The physician did not consider the case as serious, and, after prescribing, left with the understanding that he was to be called in case his services were required. On December 27th he was again called, and after examining the patient, he informed them that the child had developed double pneumonia and was very sick; and he would return the next day at the same time, prescribing for the patient. The parents told the physician they had not had the first prescription filled, not believing in medicine, but they failed to state why, in that event, they had called for the services of a medical practitioner. The following morning the physician was informed by telephone that the child was much better and it was not necessary for him to call, and on the next day, December 29th, an undertaker brought a death certificate which he signed, giving pneumonia as the cause of death.

On January 8, 1910, another medical practitioner was called by the Messengers to see Etta, who was seriously ill with croup. He was informed that all the children had had measles, but, being suspicious

of any croupy condition and aware of the fact that diphtheria had been diagnosed in several families of the immediate neighborhood, he thoroughly examined not only the throat of the sick child but also those of the other children, four in number. He found nothing suspicious in any of them. He prescribed for the child. He was called again the same evening and finding the patient suffering greatly from dyspnoea, administered a hypodermic of apomorphia, which produced immediate relief, and ordered what he considered advisable to prevent further attacks. Messenger informed him he would report the child's condition and call him if necessary. Between the 8th and 12th of January, Messenger obtained medicine on three different occasions. At three o'clock on the morning of January 12th, the physician was again called and diagnosed double pneumonia. At seven o'clock in the evening of the same day there was no improvement and the child died on the afternoon of January 13th, as a direct result of the double pneumonia. Whether this followed a diphtheretic croup is of course impossible to definitely determine, though, in the light of subsequent developments it is probable that such was the case and that the two children who up to this time had passed away had died indirectly from the effects of diphtheria.

Nothing further was heard from the family until the 25th, January, when the same physician who had treated the second child was called to see Mary. He was told that all the children had had sore throats. Mary was in a very serious condition and the diagnosis of diphtheria which was made was confirmed by the report from the swab sent to the State Board of Health. Antitoxin was administered, a nurse installed and the family quarantined. The child died on the following day. Ten days later the physician called at the Messenger home to see if the quarantine could be raised. He found

Arthur very ill with diphtheria and was told that he had been sick eight or ten days. When Messenger was asked why he had not reported the case, he said that it was a case of "be damned if you did and be damned if you didn't," that "the children died whether they were treated by a doctor or not." He said also that he had had a medical practitioner to overcome neighborhood prejudice and knew at the time he called a physician that the children were beyond hope of recovery. Taking into consideration the fact that the Messengers must have known that the last case was diphtheria and that by not at least reporting the case they had laid themselves liable to the law, the physician reported the case to the County Health Officer, these cases being outside the city limits. By him the matter was reported to the State Board of Child and Animal Protection. Upon the presentation of this evidence, the latter, on February 9th, accompanied by a constable, went to the Messenger home. Messenger was asked if he would or if he had employed a physician for the boy Arthur, and replied that he had not and would not. Accordingly, on the 9th day of February, 1910, in the Otero County Court, State of Colorado, an action was begun against Mr. and Mrs. D. B. Messenger, which action read as follows:

State of Colorado, County of Otero, ss.

In the County Court:

The People of the State of Colorado, in the matter of an inquiry concerning Arthur Messenger, Martha Messenger and Mabel Messenger, alleged to be dependent and neglected children, and the right of B. D. Messenger and Mrs. B. D. Messenger, their parents, to the further custody and control of said children.

The charging part of the amended complaint in the above-entitled action is as follows:

"That Arthur Messenger, a child of the age of twelve years, Martha Messenger, a



child of the age of six years, and Mabel Messenger, a child of the age of two and one-half years, all of said children being under the age of sixteen years and residing in the County of Otero, State of Colorado, and not being inmates of any state institution, are neglected children who have no proper parental care or guardianship, and whose home, by reason of neglect on the part of their parents in whose care they now are, is an unfit place for said children, and whose environments are such as to warrant the state in the interest of said children in assuming their guardianship.

"That the facts, by reason of which said children are neglected children as defined by law, are as follows, to-wit: That said children are children of one B. D. Messenger and Mrs. B. D. Messenger, his wife, who reside in Otero County, Colorado; that the said child Arthur Messenger was, at the time of the filing of the original complaint herein, and is at the present time, seriously ill with diphtheria at the said home of his said parents, and that the said Martha Messenger and the said Mabel Messenger have been exposed to said disease; that said parents within a period of six weeks last past have lost by death three other children who died in said home from said disease, and that said children were so far neglected by said parents during their lifetime that they were not given the necessary treatment and comforts to either ward off, prevent or cure said disease, and that said parents have failed and refused to give the said Arthur Messenger, Martha Messenger and Mabel Messenger any proper treatment or comforts calculated to ward off, prevent or cure said disease, and have refused to employ a nurse to take care of said children; that as a result of said action the lives and health of said children are in danger."

The action was brought under Section 1, Chapter 168 of the Session Laws of 1907, which is as follows:

"For the purpose of this act and words 'dependent child' or 'neglected child' shall mean any child under 16 years of age who is dependent upon the public for support, or who is destitute, homeless or abandoned; or who has not proper parental care or guardianship; or who habitually begs or receives alms; or who is found living in any house of ill-fame, or with any vicious or disreputable persons; or whose home by reason of neglect, cruelty or depravity on the part of its parents, guardian or other person in whose care it may be, is an unfit place for such a child; or whose environment is such as to warrant the state, in the interest of the child, in assuming its guardianship."

Upon the filing of the above, the Court issued an order placing the children in charge of the County Health Officer, directing him to provide a nurse, to maintain a strict quarantine, to engage a consulting physician and to treat and care for the said children pending the final hearing of the case. When the case came to trial, the evidence showed that the services of the last two physicians were refused by Mr. Messenger, but that he was informed by them that they were directed by the Court and the family should keep their hands off until they received permission to resume care of the child. The condition of Arthur at this time was very serious. The child was profoundly septic. Neck was swollen to half again its natural size, pulse running to 140, temperature low, 100-100, and urine showing one-fourth of 1 per cent of albumen. During the course of 24 hours, 12,000 units of antitoxin were administered. Internally were given Basham's mixture and sulphide of calcium; an antiseptic spray; absolute recumbency and milk diet. In spite of the desperate plight of the patient, he was discharged cured on the 18th day of February.

The case came to trial in the Otero County Court on February 24, 1910, F. A. Sabin Esquire, of La Junta, conducting the prosecution and W. R. Hicks, Esquire, of Denver, appearing for the defense. The testimony offered was practically as given in the history of the cases above mentioned, coupled with statistics showing the value of antitoxin in diphtheria. The point was also raised that in a case of contagious disease no one could be allowed, no matter what particular cult or system of cure he might follow, to endanger the health of the community in general.

The Christian Scientists came to La Junta backed up by an imposing array of cases that had supposedly been cured after all medical and surgical means had failed and by some of their leading teachers and practitioners. However, upon the conclusion of the testimony of the prosecution, no evidence was offered by the defense, the attorney claiming that the prosecution had not sustained their case and in as much as Christian Science had not been attacked no defense was necessary.

In the written decision handed down by Judge E. W. McDaniels of the Otero County Court, he said in brief:

"The testimony showing that the parents are of good moral character and their treatment of their children in other respects was kind and considerate, the issue has narrowed to the question 'did the failure or refusal of the parents to give proper medical treatment to their children, ill with diphtheria, constitute neglect as contemplated by the statute.' Evidence shows that at least one child died from diphtheria directly, two from pneumonia, but whether following measles or diphtheria must remain an uncertainty. This proceeding was not criminal in character nor purpose and invokes the power of the Court solely to provide proper guardianship for dependent or neglected children. In view of the fact that most of these

cases are tried by the Court without jury intervention, it is essential that the Court be extremely careful to invade no non-forfeited right of the parent. On the other hand, the Court should allow no consideration of sympathy or private or neighborhood opinion to interfere." In support of this Judge McDaniels quoted:

McKercher vs. Green, 13 Colorado Appeals 270, page 280.

Hockheimer on Custody of Infants, p. 16.

Nugent vs. Powell, 4 Wyo. 173.

Richards vs. Collins, 15 N. J. Eq. 283.

U. S. vs. Green, 3 Mason 485.

Mercein vs. People, 25 Wend. 67.

Wellesly vs. Wellesly, 2 Bligh N. S. 124.

Van Walters vs. Marion Co., 132 Ind 567.

Milwaukee Industrial School vs. Milwaukee County Supervisors, 40 Wis. 328.

Ferrier, 103 Ill. 367.

Continuing, he said:

"It remains to consider the main question presented by the complaint and evidence as to whether or not failure to provide medical care for these children constituted neglect under the statute." He quoted from Schouler on Domestic Relations, page 548, and People vs. Pierson, 176 N. Y. 201, and Leach vs. Williams, 176 N. Y. 201, and Leach vs. Williams, Ind. Appellate Court, 66 N. E. 172, as stating that necessary medical attention is one of the infant's necessities and quoted further, also from County vs. People, 83 N. Y. 464, in which case the conviction for failure to provide sufficient medicine and medical attention for a child, under the care of the manager of an orphan asylum, was upheld by the higher court.

"It may be desirable to ascertain upon what reasoning is based the rule that includes among the duties which the relation of parent and child casts upon the former, that of supplying medical attendance to the latter, when, during its tender years,

it falls seriously ill. Science is defined by the Standard Dictionary as 'Knowledge gained and verified by exact observation and correct thinking, especially as methodically formulated and arranged in a rational system.' The science of any particular department of human knowledge is defined by the same authority as: 'A system of ascertained facts and principles covering and attempting to give adequate expression to a great natural group or division of knowledge.' Medical science, like most other departments of human activity, has made greater advance in the last hundred years than in all former time. In its basic departments, it has become almost an exact science. Porter in his Human Intellect says: 'The technical nomenclature of a single science when finished and arranged, is a transcript of all the discriminating thoughts, the careful observations, and the manifold experiments by which the science has been formed.' Measured thus by the extent of its terminology it is apparent that upon medical science, together with its allied sciences, hygiene, sanitation, chemistry, comparative anatomy, etc., men have expended as much energy and thought as upon any other division of human knowledge. Common reason and experience suggests that when we desire knowledge upon any subject unfamiliar to us, we should seek those who have made special investigation of it."

Judge McDaniels further drew comparisons between employing a mining engineer in case one wants complete information concerning mining property, a carpenter to build a house, a man learned in law when necessary to establish a right or defend against a wrong, and said: "It would seem, therefore, within this most common and ancient rule of human conduct, that the sick man, sensible of his condition, but ignorant of its nature, or proper medicament, acting as an ordinary prudent man, desirous of recovery, would

call to his aid the physician trained to treat disease, and who is the special heir to all the vast knowledge accumulated upon that subject. It follows that a parent or guardian having in his charge and custody a child of tender years, unable to provide for its own welfare, is in duty bound when that child falls seriously ill, to procure for it the attention and care of those whose scientific knowledge of disease fits them to treat it, and that his failure to do so constitutes neglect. In the case at bar a much stronger case against the parents than the abstract rule just stated, presents."

After explaining that in the case of the first child, and the second, there was not sufficient evidence to charge the parents with neglect, also in the case of the third child, even although a physician was not in charge until the tenth day there was no evidence to show that the parents knew the disease was diphtheria, he continued: "But in the case of Arthur there is no question. Mary had died on January 26th of diphtheria and the Messenger home was quarantined. On February 7th, the physician called to inspect the home and found Arthur ill with diphtheria and was told he had been sick eight or ten days. When the officer of the State Board of Child and Animal Protection called, Messenger told him in emphatic terms that he had not and would not employ a physician. The two physicians appointed by the court testified that in their opinion, when called to attend Arthur, the chances were greatly against his recovery. The court is forced to the opinion that in the absence of the treatment provided, the boy Arthur would not have survived."

After quoting from Osler, Holt and other authorities in reference to the influence of antitoxin on diphtheria, Judge McDaniels ended his decision in this manner: "There are some diseases in which

the administration of drugs appears to be of doubtful efficacy, the physician's advice being needed only in the matter of diet, exercise and hygiene. In such diseases unless the need of such advice became apparent the failure to call a physician could not be charged as neglect. But in a case of diphtheria, such as the case at bar, where the disease is so dangerous without treatment, and so amenable to treatment in its early stages, the duty to call a physician and to administer the special treatment as soon as the diagnosis is confirmed is imperative."

"The court, therefore, finds that the said Arthur Messenger, Martha Messenger and Mabel Messenger, children of B. D. and Mrs. B. D. Messenger, are dependent and neglected children as charged in the complaint herein and defined in the statute. It is the order of the court, that pending the final disposition of this case the said children may be permitted to remain in their home and under the care and control of their parents, subject to the jurisdiction and direction of this court and to the visitation of any officer of this court when directed by the court so to do."

#### CONSERVATIVE TREATMENT OF BONE SARCOMA.

It has become almost a surgical byword to amputate as high as possible in cases of bone sarcoma. A more thorough investigation into the pathology of bone sarcomata and the manner of their metastasis tends to indicate that we have been too radical. The metastasis of sarcoma usually occurs through the circulating blood and not through the lymphatics. The cause of death is metastasis and not recurrence in the stump. It is a rather suggestive observation, which has been commented on by many writers, that among the cures of the more malignant sarcomas of bones there have been about as many resections as amputations.

Bloodgood (*International Clinics*, Vol. I, 20th series) very wisely calls particular attention to giant cell sarcoma. He says, in brief, "I am of the opinion that giant-cell sarcoma is relatively one of the least malignant of the sarcomas of bone." I have "failed to find in the literature a case of pure giant-cell sarcoma which had given metastasis and there are recorded cures even after two or more operations for recurrence."

We are very emphatically of the opinion that amputation is only indicated when the complete excision of the tumor would leave a limb without function.

Coley's reports upon treatment of bone sarcomas by serums are certainly very gratifying. It is unfortunate, however, that other investigators have not been able to report as good results. It is nevertheless well worth trying.

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#### THE ROUTT COUNTY MEDICAL SOCIETY.

We are glad to note that the physicians of Routt County have banded themselves together into what promises to be a very lively little society. The officers appear in another place in our columns (see page 163). We extend to the youngest County Society our heartiest wishes for a long and successful career.

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#### PREAGONAL HYPOTHERMIA.

Dr. J. F. Munson (*Arch. of Int. Med.*), reports a series of cases of epilepsy dying from various terminal complications (chiefly tuberculosis and pneumonia) in which remarkably low temperatures were observed some time before the death of the patient. Several cases had a temperature as low as 86 degrees Fahrenheit as long as three days before death. Some cases resumed normal temperature after a slow drop to the neighborhood of 90 degrees Fahrenheit.

## THE RIGHT APEX.

From the time when percussion became a fine art various investigators found differences between the right and left apices which could not be accounted for by any pathological condition in the lungs. Hence the conception that normally (perhaps due to thicker musculature) a slight impairment of resonance is to be expected at the right apex, grew to be one of the dogmas of physical diagnosis. The Germans, however, continued investigations into other possible causes of this dullness. Kronig thought that when not due to active or healed tuberculosis it was due to a collapse induration secondary to dust intake on account of nasal obstruction.

Recently D. von Hansemann (*Berl. Klin. Wenschn.*, 1910 No. 5) has brought forward another explanation which he bases partly upon the differences found between Goldscheider's light sagittal percussion and light vertical percussion, (especially on the outer margin of Kronig's isthmus,) partly upon associated dulness found over the hilus of the lung in these cases, (front and back), and partly upon a demonstration of the anatomical preponderance of airless structures—glands, etc.—under the right apex. He believes that glandular enlargement explains much of the normal dulness at the right apex, and especially in those showing a general lymphatic tendency (adenoids, etc.). This, when corroborated, will greatly increase the significance of apical percussion, not only to the lung specialist, but to the general practitioner.

## NOTICE.

Secretaries will please remember that newly elected members will not be sent Colorado Medicine until their names have been properly reported to the secretary of the state society.

## Original Articles

### THE SERUM DIAGNOSIS OF SYPHILIS.\*

By WM. WHITRIDGE WILLIAMS, M. D.  
(From the Webb Tuberculosis Research Laboratory, Colorado Springs, Colo.)

The diagnosis of syphilis presents few difficulties, as a rule, but there are numerous obscure manifestations of it which are baffling until the true etiologic factor is discovered.

After the diagnosis is made, it is very often necessary to know how long treatment should be continued, or when it is safe to stop. The old empirical idea that treatment should be continued for two or three years is thoroughly unsatisfactory and unscientific, and a method of determining how long the virus is in the system is absolutely necessary for the rational care of a syphilitic individual.

No such method was known until about four years ago, when Wassermann published the results of his researches and gave to the world the serum test for syphilis. By this test we are enabled to diagnose syphilis with more or less certainty, and have further found that many diseases, especially of the central nervous system, whose etiology had been obscure, are caused by syphilis.

The discovery of the germ of syphilis by Shaudinn and Hoffmann (15) in 1905, the spirocheta pallida or treponema pallidum, marked a great advance in the study of the disease. These organisms are abundant in the early stages, and are comparatively easy to find, but as the disease progresses they become more and more difficult to find, and when the disease becomes latent it is almost impossible to demonstrate their presence. It is in these latent and doubtful cases that

\*Read before the El Paso County Medical Society, March 9, 1910.

the value of the serum test is appreciated.

Before it is possible for us to understand the principles on which the serum test is based, it will be necessary for us to review some of the facts and theories upon which it is founded; particularly Ehrlich's (7) Side-chain Theory of Immunity and its application to hemolysis.

In 1885, Ehrlich (6) published a paper in which he emphasized the chemical nature of the assimilation of foods by the body cells. He considered the living protoplasm of a cell to consist of an executive dominating body—a central office, as it were—and numerous other chemical groups or side-chains which were capable of combining with various food particles and linking them to the cell, thus bringing the food into a position where it could be acted upon by the digestive activities of the cell. Thus, these side-chains receive the food particles and are now called by Ehrlich receptors. According to this hypothesis, the receptors are definite groups of atoms, arranged, how-

ever, in a multitude of different ways, and are capable of combining only with other definite groups of atoms in the food particles. Diagrammatically, we can conceive of the receptors as being excrescences on a cell and having a variety of different shapes. Also, we can think of the food particles being differently shaped. In order for a food particle to combine with a receptor and so be utilizable to the cell, it is necessary that it is so shaped that it will exactly fit a corresponding receptor. These combining groups are called haptophores (from the Greek word, to fasten).

After Von Behring's (2) discovery of diphtheria antitoxin in 1890, Ehrlich elaborated his nutritional theory and finally gave us what we know now as his Immunity Theory. According to this if we think of a molecule of toxin as being moulded, just as the food particles were before, it can exert no influence unless it can find a receptor with a similar moulding. When this has happened, the receptor is rendered useless as far as further assimilation is concerned and the cell, feeling the loss of the receptor, proceeds to make good the injury. Following a general biologic law, when a tissue is injured, the organism is not content with merely making good the defect, but reproduces the lost part in over excess. (Proud-flesh is a familiar example.) Applying this observation, which was first made by Weigert, (17) to the formation of antitoxin, we see that if some of the receptors of a cell be rendered functionless—through their free ends being capped by uniting with the haptophoric group of a toxin—the cell will reproduce the lost receptors in over excess, and a large number of them will be thrown into the blood, where they will float free, and will, on coming in contact with toxin molecules, fix on to their haptophoric groups, thereby rendering the toxin incapable of exercising its toxic action.

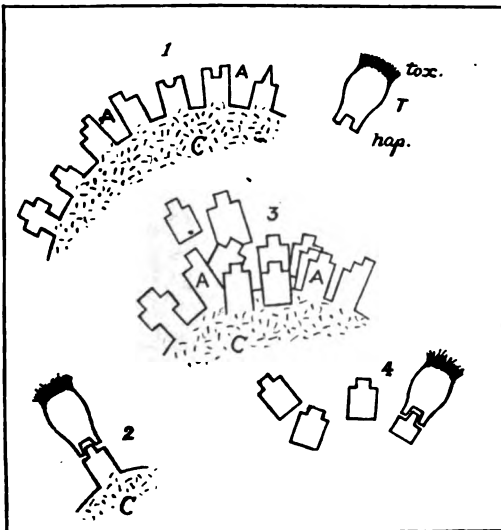


Fig. 1. Mechanism of Antitoxin Formation. (Ehrlich's Theory.)

- C—Functionating centre.
  - A—Side-chains or receptors.
  - T—Toxin molecule with its haptophoric (combining) and toxophoric (poisonous) groups.
  - 1—Union of Toxin and cell (toxic).
  - 2—Overproduction of receptors or antibodies.
  - 3—Union of toxin and antibody (antitoxic).
  - 4—Union of toxin and antibody (antitoxic).
- (From Recent Advances in Physiology, p. 441).

Thus, we see that antitoxin is composed of anti-bodies which are in reality receptors that have been cast off from the tissue cells.

So far, we have taken up some of the factors concerned in Ehrlich's Theory. Now, let us take up the laking of blood, or hemolysis. Laking is the dissolving of the red blood cells, in consequence of which the contained hemoglobin is set free into the surrounding medium.

It has long been known that it is not possible to transfuse the blood of different animals into man without causing injury. In 1898 Belfanti & Carbone (3) found that if horses be injected with rabbit's red blood cells, the serum afterwards obtained from the horses was toxic for rabbits. Shortly after this Bordet (4) and others showed that by injecting erythrocytes of one animal into another, that the blood serum from the latter was then capable of dissolving in a test tube the erythrocytes of the former. These facts can now be stated as a law as follows: The serum of animals, species A, after these have been injected either subcutaneously, intraperitoneally or intravenously with erythrocytes of species B, acquires an increased solvent action for erythrocytes of species B, and only for this species. It is therefore a specific action. We call this hemolysis, and the substances which cause the solution of the red blood cells, hemolysins.

Bordet later showed that the solvent action of the hemolysins depended on two factors in the serum. When the fresh hemolytic serum was heated for half an hour at 55 C. (140° F.) it lost its dissolving power. If to this inactive serum a very small amount of the serum of a normal guinea pig was added (a serum which was not naturally hemolytic for rabbit red cells) the full hemolytic power was restored to this inactive serum. In other words, it had been reactivated by this addition.

This experiment shows that there is one

constituent of the hemolytic serum which can withstand heating to 55° C. and is contained only in the specific serum. The other constituent is destroyed by heating to 55° and is contained not only in the specific serum, but also in the serum of normal untreated animals.

To these substances Bordet gave the name of substance sensibilatrice to the heat resisting or thermostable body which is present only in the specific serum and hence formed by the process of injecting the red cells (usually called immunisation) and alexin to the thermolabile substance found both in the specific, as well as the normal serum and which is a normal physiological constituent of the body fluids.

Ehrlich and Morgenroth (8), working on the same subject of hemolysis, found also that two factors were concerned in its production. By numerous ingenious experiments they found that the substance sensibilatrice was increased by the process of immunization and they gave the name immune-body to it. They also found it had no hemolysing effect on the red cells, though it had a strong affinity for them, forming a firm chemical union. Instead of the name alexin, they use the term complement in order to express the idea that this body completes the action of the immune body.

Expressed in the phraseology of Ehrlich's Theory we have the following:

The injection of foreign red cells into an animal calls forth the production of cast-off receptors (just as with toxin) and then these float free in the blood. These free receptors are the immune bodies and possess mouldings that will only fit the mouldings on the cells that caused their production. These receptors produce no effect on the red cells until they come in contact with the complement. The complement can not attach itself to the red cell and can only exert its action on the cell by means of the immune body.

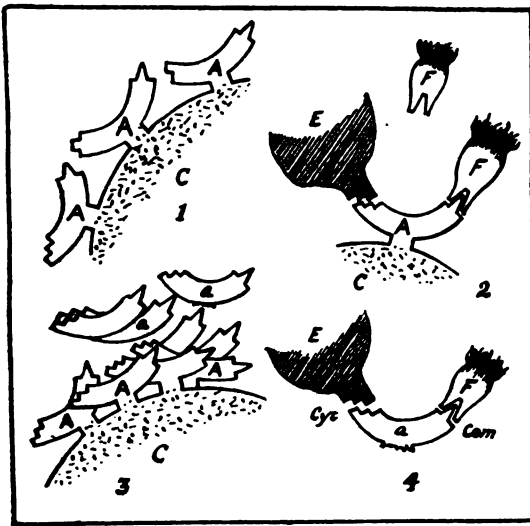


Fig. 2. Mechanism of Hemolysin Formation. (Ehrlich's Theory.)

- C—Functionating centre.
  - A—Side-chains or double receptors or amboceptors.
  - F—Ferment-like body or complement.
  - 2—Union of complement and erythrocyte (E).
  - 3—Overproduction of antibodies or amboceptors.
  - 4—Union of amboceptors with erythrocyte and complement (hemolysis).
- (From Recent Advances in Physiology, page 444).

All the facts we have so far brought out in connection with hemolysis apply equally to bacteriolysis, or the dissolution of bacteria. The bacteriolysin consists of a combination of immune body or amboceptor with the bacterium which exerts its effect when joined to the complement.

By sensitisation of a cell or bacterium we understand that the cell or bacterium has attached to itself the specific antibody or amboceptor whereby it is rendered sensitive or susceptible to the action of complement. When complement combines with this sensitized cell, cytolysis results.

If well sensitised rabbit blood corpuscles (that is, corpuscles treated with a hemolytic serum heated to 55° and thus containing only amboceptors) are added to fresh guinea pig serum (therefore containing complement), their dissolution follows. If after a certain time sensitised cholera vibrios (i. e., vibrios treated with heated cholera serum) are added and the mixture placed in the incubator, no trans-

formation or change takes place in the vibrios. From this result we know that there was no free alexin or complement in the mixture, for, if present, it would have transformed the vibrios. From a control tube we learn that a transformation occurs in the vibrios if the red blood corpuscles added in the first place are not sensitised.

The converse of this experiment also holds. If sensitised cholera vibrios are added to normal serum (therefore containing complement), subsequently added sensitised corpuscles are not hemolysed.

This experiment is known as the Bordet-Gengou (5) Phenomenon, and they drew the conclusion that corpuscles or bacteria when sensitised are able to absorb alexin (complement) with avidity and to remove it from the surrounding fluid.

They further proved a fact of pre-eminent interest: To demonstrate the existence of a sensitiser (immune body, antibody, amboceptor) in an antimicrobial serum we may make use of its property of causing the bacterium it affects to absorb alexin (complement). This was the first proof afforded of the now well known process of Fixation of Complement, also spoken of as Deviation of, Deflection of, or Absorption of Complement.

Up to this time this phenomenon had remained one of purely scientific interest, but in 1906 Wassermann, Neisser and Bruck turned it to a practical asset and published their results by using this method in the detection of syphilis.

#### THE WASSERMANN TEST (16).

The basis of this test is to demonstrate the presence of an anti body (amboceptor) in the serum of the suspected individual.

Let us suppose we have immunised an animal with the *Treponema pallidum* and have obtained a specific serum directed against these germs. This serum has



been inactivated by heating it to  $55^{\circ}$ , so that now it will act on the Treponema only when some fresh normal serum is added to complement the immune body (antibody). For this purpose we have provided ourselves with some freshly drawn serum from a guinea pig. This guinea pig serum, therefore, is the complement. On mixing treponema with the specific immune serum and then with the complement, these three factors enter into combination and this results in the destruction of the treponema. The quantities can easily be so arranged that this combination uses up all of the complement, so that the fluid contains not a trace of free complement after the substances have combined.

Suppose, now, that we also had a specific serum obtained by injecting an animal with red blood cells, for example, by injecting a rabbit with sheep red blood cells. This rabbit serum would be specifically directed against sheep blood cells. Let us inactivate this serum by heating it to  $55^{\circ}$  C., so that now it needs the addition of complement to cause hemolysis. For complement, we can again use fresh guinea pig serum.

Let us now suppose we have carried out the first part of this experiment—having mixed treponema, immune serum and complement and allowed the mixture to stand long enough for the three factors to combine. At the end of this time let us add sheep blood cells and its specific serum, as in the second part of the experiment, but let us add no further complement, because the fresh guinea pig serum was able, as we saw, to serve as complement for the blood combination. We again allow the mixture to stand for a suitable length of time in order to allow the factors to combine and then examine it. We shall find that no hemolysis has occurred, and we conclude that the first combination (treponema, antibody and complement) had used up all the comple-

ment, had fixed it, and left none for the hemolytic reaction.

If we were to repeat the whole experiment, but leave out in the first part of the test the specific immune serum (containing antibody or amboceptor) we would find that hemolysis would occur. This is easily understood when we remember that then we would have only treponema and complement, two factors which can not combine directly. The complement would therefore be left free to join in the hemolytic reaction.

Of course, pure cultures of the treponema are not available and we are unable to produce artificially an immune serum, but it is proper in view of the immunity acquired in many cases of syphilis, to assume that the serum of syphilitics contains antibodies. Instead of pure cultures Wassermann used extracts of syphilitic organs which are rich in organisms, as antigen (antigen is any substance which, when injected, produces a corresponding specific reaction product or antibody). And instead of the supposed specific anti-serum he uses the serum or spinal fluid of the patient. Otherwise the test is similar to the supposed experiment we have just carried out.

Therefore, in carrying out the test, if we produce hemolysis, we know that one of the factors in the first combination (antigen, antibody, complement) is lacking. On the other hand, if no hemolysis occurs we conclude that all three factors were present in the first combination and that the serum used in the test must have been obtained from a syphilitic.

In order to perform this test the following materials are needed:

- (1) Patient's serum.
- (2) Normal serum.
- (3) Known syphilitic serum.
- (4) Antigen, i. e., extract of syphilitic organ.
- (5) Sheep red blood cells.

- (6) Hemolytic amboceptor, i. e., heated serum of rabbits immunized with sheep red blood corpuscles.
- (7) Complement, i. e., fresh guinea pig serum.

It is a laborious and tedious undertaking, and it is little wonder that numerous investigators have endeavored to find means of simplifying it. These modifications are many, but most of them lose in delicacy and are not to be recommended. I shall, however, briefly mention two of these modifications, both of which are based on the underlying principles of the original Wassermann System.

#### NOGUCHI'S TEST (14).

It was soon found, after Wassermann's original contribution, that it was not absolutely essential to use as antigen the extracts of syphilitic organs. Through the work of Marie and Levaditi (12), Landsteiner (11), Noguchi (13) and many others it was discovered that the test could be carried out with extracts of non-syphilitic tissue; for instance, heart muscle, liver and kidney of normal animals (man, ox, guinea pig, rabbit or dog). It seems that the essential feature of the antigen is some lipoid-protein combination and that these substances have the ability to fix complement.

Therefore, as a first simplification Noguchi uses as antigen an extract of some normal organ. He further modifies the test by using an anti-human hemolytic amboceptor instead of the anti-sheep one of Wassermann. This obviates the necessity of using sheep's blood at all in the test. He immunises a rabbit against human erythrocytes and uses human red cells in the final stage of the test to determine the presence or absence of hemolysis, or, in other words, whether there is fixation of complement or not. The test is much simpler and, according to Noguchi, is slightly more delicate than the original Wassermann test.

#### FLEMING TEST (9).

In this test Fleming has done away with the necessity of immunising a rabbit against either sheep (Wassermann) or human (Noguchi) erythrocytes. He takes advantage of the fact pointed out by Bauer (1) and Hecht (10), that fresh normal human serum possess a natural hemolytic amboceptor for sheep erythrocytes and also uses as his complement that present in fresh human serum, thus doing away with the necessity of using fresh guinea pig serum.

The materials necessary for the test are:

- (1) Sheep's erythrocytes.
- (2) Serum from a non-syphilitic.
- (3) Serum from a syphilitic.
- (4) Serum to be tested.
- (5) Heart muscle extract.

#### (1) SHEEP'S ERYTHROCYTES.

Whipped sheep's blood is easily obtained at an abattoir. The corpuscles are washed free from serum by dilution with normal salt solution and centrifuging, repeating the process three or four times. A 10% suspension of the sedimented corpuscles is made in normal saline. The corpuscles need not be absolutely fresh, as, if they be kept in an ice chest, they will keep without hemolysis for two or three days. After this length of time, if they tend to hemolyse, a useful suspension can usually be made by washing them several times with normal saline. Fleming has used them up to seven days old with perfectly good results.

#### (2) SERUM.

Blood is collected from the finger or ear in an opsonic capsule and allowed to clot. The separation of the serum from the corpuscles may be hastened by centrifuging the capsule. About 0.25 c. c. of blood supplies enough serum for the test.

#### (3) ALCOHOLIC EXTRACT OF HEART MUSCLE.

One gram of heart muscle (rabbit or guinea pig) is well ground up in a mortar

with 5 c. c. absolute alcohol. It is now heated to 60° C. for one hour, following which it is allowed to sediment for twenty-four hours at 37° C. The clear, supernatant fluid is removed to a suitable receptacle and stored in an ice chest. Before use this extract must be diluted with normal salt solution in such proportion that while it will completely bind the complement of a syphilitic serum (that is, prevent hemolysis) it will not interfere with the hemolytic power of a non-syphilitic serum. It must be borne in mind that if too large a percentage of alcohol is used then hemolysis will take place when sheep corpuscles are added, even in the absence of serum. Thus no extract should be used which requires to be used in a strength exceeding 10%. The strength of the extract is tested by taking various strengths of it and using each with a syphilitic serum, as follows:

Make some pipettes, similar to those used in making opsonic tests, and mark off an arbitrary distance, say about three-quarters inch, and then another mark on capillary part of the pipette corresponding to four times this original arbitrary volume; various strengths of the heart extract are made with salt solution, say 1, 2½, 5 and 10%; now we take up four volumes of the 1% extract, allow a small bubble of air to enter, and then take up one volume of normal serum, mix the two thoroughly on a glass plate and then draw up into the pipette, leaving an air-bubble at the end, and then take up one volume of erythrocyte suspension, finally fusing the end in a flame. This procedure is repeated, using syphilitic in place of the normal serum. Similar pipettes are prepared, using the 2½% extract with normal and with syphilitic serum, and the same procedure carried out with the 5 and 10% extract solutions. Finally, four volumes of each strength of extract are mixed with one volume of erythrocyte suspension. All these pipettes are now

placed in the thermostat at 37° C. for one hour, then removed, the ends broken off and the contents of each well mixed on a glass plate, taken up again, the ends fused and replaced in the incubator for 1½ to 2 hours, care being taken that they are in a vertical position. The results may then be read off, but sharper differentiation is obtained if the pipettes are placed in the ice-chest for several hours to allow sedimentation of the corpuscles in the non-hemolysed pipettes. We now note in which pipettes there is or is not hemolysis, and choose that strength of extract which prevents hemolysis with the syphilitic serum, but does not interfere with the hemolysing power of the normal serum. Once the proper dilution is found this can be used from day to day without further preliminary standardisation, as the controls which are used in the actual testing give sufficient indication as to the qualities of the extract. The all-important part of the whole reaction seems to be the use of a suitable extract. The extract will keep practically indefinitely.

The test is performed as follows:

In pipette No. 1 take up four volumes of normal salt solution, then one volume of serum from a non-syphilitic person, mix these thoroughly on a glass plate and draw up into the pipette again, leaving an air-bubble at the end, and then one volume of the erythrocyte suspension and fuse the end of the pipette in a flame; in pipette No. 2 draw up four volumes of heart extract, one volume of non-syphilitic serum, mix then one volume of erythrocytes and fuse the end; in pipette No. 3 four volumes salt solution plus one volume serum from a known syphilitic individual plus one volume of erythrocytes; in pipette No. 4, four volumes heart extract plus one volume syphilitic serum plus one volume erythrocytes; in pipette No. 5, four volumes of normal salt solution plus one volume of erythrocytes; in pipette No. 6, four volumes of heart ex-

tract plus one volume of erythrocytes; in pipette No. 7, four volumes salt solution plus one volume of serum to be tested plus one volume erythrocytes; in pipette No. 8, four volumes heart extract plus one volume of serum to be tested plus one volume of erythrocytes. If more than one serum is to be tested, we carry out the same plan with respect to them, i. e., in the odd-numbered pipettes we place salt solution plus suspected serum plus erythrocytes, while in the even-numbered ones the heart extract is substituted for the normal saline solution.

After these pipettes are thus prepared they are placed in the incubator at 37° C. for one hour, they are then removed, the ends broken off and the entire contents very intimately mixed on a glass plate by drawing the fluid in and out of the pipettes, again drawn up into the pipettes, ends sealed and replaced in a vertical position in the thermostat for one and a half to two hours. They are then placed in the ice chest and after several hours are ready to be inspected.

The results will be: No. 1, hemolysis; No. 2, hemolysis; No. 3, hemolysis; No. 4, no hemolysis; No. 5, no hemolysis; No. 6, no hemolysis; No. 7, and other odd-numbered pipettes, hemolysis; No. 8, and other even numbers, no hemolysis if the suspected serum be from a syphilitic individual, hemolysis if the serum be from a non-syphilitic.

We thus see that a positive reaction consists of hemolysis in the pipette with serum, saline and erythrocytes and no hemolysis when serum, heart extract and erythrocytes are mixed.

With some extracts one can use one volume of each of the constituents, which increases to some extent the rapidity with which the test is carried out, and at the same time, allowing the serum to act on the corpuscles in only a three-fold dilution, it hastens hemolysis and increases the sharpness of the reaction in those sera

which do not hemolyse sheep's corpuscles well in higher dilutions.

While these methods of procedure are sufficient in most cases modifications have sometimes to be introduced. The test depends on the natural hemolytic power of human serum for sheep's corpuscles, but this power is very deficient or totally absent in about 10% of human sera. This may be due to absence in the serum of either complement or amboceptor, and the test is completed by supplying the deficiency. The test is done in the usual way and one finds that the hemolytic power in one pair of pipettes is deficient. Then one adds one volume of inactivated normal human serum (heated to 58° C. for thirty minutes), which is known to have an amboceptor for sheep's corpuscles, to this pair of pipettes and incubates for another two hours, when, if the serum possesses any complement, hemolysis will take in the "salt" pipette and the "extract" pipette will be hemolysed or not as the serum is non-syphilitic or syphilitic. If the serum be deficient in complement then one must add this either in the form of guinea pig's serum containing complement only, or fresh human serum containing both complement and amboceptor before the first incubation period. Thus one puts in one pipette four volumes of extract, one volume of patient's serum and one volume of fresh normal serum, while in the control pipette the extract is replaced by normal saline solution. This is incubated for one hour, the corpuscles are added, and the test is completed as above.

By adopting one or the other of these simple methods a positive or negative result may be obtained in practically every case.

In conclusion, I want to refer to the clinical value of the serum test for syphilis and in doing so I am obliged to quote a good many figures, but they demonstrate so thoroughly the value of the reaction that I think it worth while.

Combining the figures obtained from the work of numerous investigators, comprising over 8,000 tests, we obtain the following:

Primary syphilis .....	70%	positive
Secondary syphilis .....	89%	"
Tertiary syphilis .....	78%	"
Early latent (late secondary symptoms) .....	51%	"
Late latent (following tertiary symptoms) .....	47%	"
Hereditary syphilis .....	95%	"
Cerebro-spinal syphilis .....	48%	"
General paralysis .....	88%	"
Tabes .....	63%	"

Or an average of about 75% in all cases of hereditary and acquired syphilis.

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## TUBERCULOSIS IN CHILDHOOD.\*

By G. R. POGUE, M. D.

Greeley.

The subject of tuberculosis in early life has been much neglected until the last few years. At the present time it is rapidly gaining a foremost place in the study of the disease.

The number of observations, experiments, theories and facts that have been brought forward are numerous, and it is exceedingly difficult to draw conclusions that may be valuable, in determining what real knowledge we have gained. Each observer backs up his theories with evidence to suit his own particular views, but the findings of the pathologist and bacteriologist, when properly controlled, are indisputable.

For instance, we have the theories of such eminent men as Baumgartner, Von Behring, Calmette and Hamburger, who produce evidence to back up their theories—evidence that the ordinary medical man is unable to dispute or confirm. Baumgartner has taught that tuberculosis is a disease contracted in pre-natal life and may break out in infancy, childhood or adult life. Von Behring and Calmette believe that tuberculosis is contracted in infancy and early childhood—mostly by way of the intestinal tract—and manifests itself later in life. Hamburger states that tuberculosis is as much a disease of childhood as measles, and if a person develops the disease later in life, it is not a new infection but a lighting up of the old infection of childhood. Von Pirquet and Hamburger demonstrated that from 93% to 97% of children in certain hospitals in Vienna reacted to the cutaneous tuberculin test. The post-mortem findings, in about 200 of these cases, showed tuberculosis in every case where the test was

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positive and absent where the test was negative. To be sure, these observations were made on children of the poorer class and in a locality where tuberculosis is prevalent; yet these findings are rather startling to those who have not given the subject some attention.

The following statistics compiled by Dunn, from the writings of various observers in this country and Europe, point very strongly to the theory of childhood infection:

Tuberculosis was found at autopsy in different ages as follows:

In the first three months.....	0 to 2%
In the second three months....	16 to 17%
In the second six months.....	22 to 26%
In the first to second year.....	42 to 44%
In the second to tenth year....	67%
In the tenth to fifteenth year...	64 to 77%

Further convincing statistics are to be had, but space forbids.

It is of little importance at the present time whether infection takes place by direct inhalation or by the intestinal canal. What is to us of the utmost importance is the source of infection. Sources of infection are numerous, but for the present it will be necessary to consider but two, viz., infection from tuberculous animals and infection from tuberculous human beings.

Infection from tuberculous animals can come only through our meat and milk supply. As meat is seldom eaten raw, and cooking destroys the tubercle bacillus, we can easily eliminate danger from that line. The milk supply is not so easily regulated. There is, however, only one way to safeguard against infection through milk, viz., by the elimination of the tuberculous cow from the dairy herd.

Infection from tuberculous human beings is the source that I wish to dwell upon more particularly at the present time. Infection from one individual to another, whether child or adult, can only take place through the discharges from

an ulcerating tuberculous surface, as of the respiratory, intestinal or urinary tract, discharging sinuses from tuberculous bones or joints, and tuberculosis of the skin or mucous membrane. Since such infective discharges from the intestinal and urinary tracts are practically taken care of through our sewage systems, and discharge from tuberculous bones and joints by surgical dressings, they practically become eliminated as sources of infection requiring our attention at the present time. Tuberculosis of the skin or mucous membrane is such a rare condition as to be scarce worthy of consideration. This leaves but one source of infection from man to man, discharges from the ulcerating surfaces of the respiratory tract or open pulmonary tuberculosis, to contend with.

It is my purpose at the present time to consider infection from man to man through discharges from ulcerating surfaces of the respiratory tract. A tuberculous individual with open tuberculosis of the respiratory tract casts off myriads of bacilli each day in his sputum. Such bacilli, however, are entangled in a viciid mucous from which they cannot escape while the sputum is in a moist state. Such sputum must first become dry and ground up into fine dust before the bacilli can become scattered about and be inhaled or carried to the mouth where infection may enter the system by way of the intestinal tract. Thus the collection and destruction of such bacilli laden sputum would naturally remove all source of danger to others. Cornet says: "A tuberculous person is only a menace to others through his sputum, and if this be collected and destroyed he is no longer a source of infection to his family, his friends or the public at large." Biggs of New York makes the following statement: "If the sputum of all tuberculous persons was destroyed at the time of exit practically all danger of communicating the disease

from man to man would be removed. It follows then as an absolutely natural sequence that tuberculosis is not only a preventable disease, but is more readily and certainly preventable than most other infectious diseases, for the whole source of infection is contained in the sputum, which may be readily destroyed at the time of exit from the body. Too much emphasis cannot be placed on the fact that consumptives are only a source of danger through the discharges from their diseased tissues, chiefly the sputum, and if these are destroyed the most intimate contact with these tuberculous persons is free from danger." Vaughan of Ann Arbor recently stated that there was only one place where a person could not get tuberculosis, viz., in a tuberculosis hospital, where the inmates were taught to collect and destroy all their sputum. Similar statements from many other eminent authorities are to be found in our every day literature.

If we could only get these facts properly placed before the public the problem of protection against infection from man to man would be easy of solution.

I shall mention only a few of the factors that act as stumbling blocks in the solution of this problem. First, the divergent views held by many of the members of the medical profession in regard to tuberculosis. Second, the lack of interest which the general public manifests in a subject that apparently does not affect them directly, especially in a financial line. Third, the failure to recognize the disease in its early stage. Fourth, the antipathy of the patient to believe he has tuberculosis until such times as the disease has manifested itself in the more advanced form. Fifth, the lack of knowledge by the tuberculous individual in regard to the infectious nature of his disease, modes and sources of infection and means of prevention. In short, we are suffering from ignorance of a subject which is of tremend-

ous importance to us as individuals, as a community and as a nation. There is but one solution for this problem, and that is education. Education of the physician, education of the patient and education of the general public.

The day has gone by when the public can be ordered to obey certain rules laid down for the control of disease. The thinking public no longer look upon disease as a mystery. The scientific work that has become so blended with the art of medicine during the last thirty years has gradually become to a greater or less extent common knowledge, and our great thinking public are looking for facts and plain statements.

True, we have had a campaign of education in the past, but it was carried on mostly by magazine writers, many of whom knew little or nothing about tuberculosis except that it is infectious, that it is caused by the tubercle bacillus and that these bacilli are thrown off in great numbers in the sputum. Such a campaign of education was successful in but one thing. It created for us a nation of phthisiophobiacs, with the result that we are in a more deplorable state than we were before. Those who are in the present campaign for the prevention of tuberculosis have a double task on their hands. They must reteach the public in regard to facts as they are known today.

If we accept the theory that tuberculosis is a disease contracted in infancy and early childhood, it becomes necessary, if we expect to be at all successful in our attempts at prophylaxis, that the child be protected from infection, and those already infected be taught how to live so as not to get a breaking out of their disease. Since we gather from authorities on the subject that the only great source of infection from man to man, or perhaps more properly speaking, from adult to child, is through the sputum, it would seem that the problem was easy of

solution. It would simply mean that all tuberculous individuals should be forced to collect and destroy all of their sputum. That would be well were it a possibility, and it will be possible in the future, but a vast amount of educational work must first be done.

The present status of the tuberculous individual is practically that of an outcast as soon as it becomes known that he has the disease. If he can hide his disease or call it by another name he has the same rights and privileges as his fellow man. Thus we see so many such cases going under the name of "catarrh," "throat trouble," "bronchitis," etc., spreading infection in their path. Such persons are forced by our present state of phthisiophobia to hide their disease for their own protection.

The prime movers in the re-education of the public must be the members of the medical profession, and if we look at the subject in the proper light it will not require much thought to recognize that at present we are going rapidly in the wrong direction.

Dr. Lawrence P. Flick once stated that it would require a dying out of the present generation and a coming up of a new generation of men and women versed in a proper knowledge of the disease before we could hope to gain much in the way of stamping out tuberculosis. That means that in our efforts at education we must give the greater part of our attention to the instruction of the young. While a broad field is open in our public schools it would seem that the most important field would be our high schools, colleges and institutions for higher education. Instruction in such institutions on a subject of such tremendous national importance must surely bear fruit.

Such a line of education should not be left entirely in the hands of the teachers. It should be laid out and revised by com-

petent medical men, men thoroughly versed in the subject. It should be presented to the student body in such a manner as to create confidence in prophylaxis, not phthisiophobia. Such an educational course in not only the prevention and control of tuberculosis, but also in regard to all other infectious diseases, would be far-reaching in its results in the future, and it is to the progressive medical man of today that this coming generation of men and women must look for true scientific facts on this subject.

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*THE NEWER TUBERCULIN TESTS.  
THEIR DIAGNOSTIC, PROG-  
NOSTIC AND THERA-  
PEUTIC VALUES.\**

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By S. SIMON, A. B., M. D.  
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A great advance has been made during recent years in the early diagnosis of pulmonary tuberculosis. Great stress has correctly been laid upon the early physical examination of the chest, in order to demonstrate the disease early. Auscultation of the apices has always been considered as furnishing the earliest signs in beginning pulmonary tuberculosis, some claiming that they consist of a modification of the breath sounds—that is, prolonged, high-pitched expiration; others, in the appearance of a few fine subcrepitant rales. The clinician, however, not satisfied, sought to obtain still earlier signs, if possible, of the disease.

Kroenig has shown that in percussion along the trapezius muscle from the mesial to the lateral border until the place is found where the sound waves touch the pulmonary tissues, the whole upper portion of the lung serves as resonator for the sound. A narrowing of the isthmus of normal resonance is made out on the

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\*Read before the Colorado State Medical Society, Sept. 14. 1909.



affected side. According to this method light percussion is performed: the pleximeter finger is placed at right angles to the shoulder girdle, beginning high up on the neck, proceeding outward along the trapezius muscle to the acromian process. Considerable experience in percussion must be acquired before the Kroenig method can be properly carried out.

It should be added that the microscopic examination of the sputum for the tubercle bacilli, always regarded as an early sign of pulmonary tuberculosis, is deficient in that a tuberculous focus may exist without any communication between it and the bronchus, and thus give no evidence of its existence, even after a careful examination of the sputum, or there may be no expectoration and therefore sputum cannot be obtained.

In recent years it has been advocated to replace the purely physical methods in diagnosis of early tuberculosis by biological means. Koch recommended the subcutaneous injection of tuberculin as a diagnostic test, the method of procedure being as follows: An initial dose of 1.0 mgr. being given, and several days after, a second dose of 2. to 5. mgr. is given, and several days later a third dose of 5. to 10. mgr.; if no constitutional reaction from either one of these injections follows the patient is considered free from tuberculosis. This method is accompanied with some danger of lighting up an old tuberculous focus somewhere in the body, and should therefore be resorted to only in those cases where every other method of diagnosis failed.

Still more recently several methods of applying tuberculin have been devised. The best known of these are the Calamette (Wolff-Eisner) conjunctival test, Von Pirquet test, and Morro's Percutaneous test.

The Wolff-Eisner test consists in dropping one or two minims of  $\frac{1}{2}\%$  to 1% solution of glycerine-free old tuberculin

in the conjunctival sac of the eye. If no inflammatory reaction follows within twenty-four hours the patient is declared free from tuberculosis. Wolff-Eisner maintains that this is absolute for the determination of an active tuberculous lesion, but this is disputed by other investigators. This test has the drawback that if negative at first, should be repeated three days apart a second and even a third time, with increasing strength of the tuberculin ( $\frac{1}{2}$  to 4%) and is also not entirely free from the danger of producing serious damage to the patient's eye. It should never be used in any diseased condition of the eye.

In the Von Pirquet Test a 25% solution of old tuberculin is used. This is prepared by taking Koch's old tuberculin in one part of 5% carbolic acid and glycerine, and adding three parts of sterile normal salt solution. The technique consists in cleansing the arm with alcohol or ether, and applying first the control, which is made up of one part of 5% carbolic acid and glycerine, and three parts of sterile normal salt solution. The skin of the fore-arm is stretched and a drop of the control placed on same and worked in by means of a spear or chisel-shaped scarifier; next a drop of 25% solution of the tuberculin is inoculated in similar manner about an inch above and below the control. In twenty-four to forty-eight hours, in positive cases, a ring of areola redness about 5 mm. or more in diameter appears around the points inoculated with the tuberculin, but no such redness around the control. In positive cases the reaction varies from a slight to a very intense redness. The value of this test in adults is still subjudice, as many different and conflicting results have been obtained with this reaction by various observers. There, however, appears to be a general unanimity as to its value in the diagnosis of tuberculosis in very young children. From my experience with this test it appears

that in serious or advanced cases in whom the prognosis was either bad or doubtful, this test gave valuable information. In this class of cases the reaction was often absent, and then a fatal issue could be prognosticated within a short period, or at any rate a lethal termination was to be expected. In another class of cases the reaction was indefinite; while some in whom a diagnosis of pulmonary tuberculosis had been made, the reaction was delayed, occurring from three to seven days after the application of the test, and lasting in some instances several weeks. This, according to Wolff-Eisner, indicates a latent or old tuberculous lesion. Further comments will be made upon the results obtained in the report of tabulated cases herewith appended.

Morro's Percutaneous Test consists of old tuberculin (Koch), and lanolin, equal parts. The lanolin is heated to about 100 F, and then thoroughly mixed in a mortar. A part of this ointment about the size of a pea is rubbed into the skin of the abdomen or upon the arm, the part to which the ointment is to be applied being first cleansed with soap and water, followed by alcohol or ether. As in the Von Pirquet test, several degrees of reaction are obtained, varying from a slight reaction, consisting of a few discrete papular eruptions to a severe reaction, consisting of numerous papules, some of which coalesce. The information obtained in this test appeared to me to be about as reliable as that obtained from the Von Pirquet test.

Another tuberculin test which has recently been brought forward is known as the Lignier's Test. This consists of shaving the upper arm, cleansing thoroughly with alcohol or ether, and then rubbing into a small area of the cleansed arm a few drops of undiluted old tuberculin (Koch). This test gives a very marked reaction in twenty-four to forty-eight

hours, similar to that obtained with Morro's ointment, but has the advantage over the latter in being easier of application, and gives a more pronounced reaction. Bandelier and Roepke do not approve of shaving the arm on account of the irritation, and possible absorption of a large dose of undiluted tuberculin that might result. While I cannot agree with them in their objection, as in over one hundred applications of this test, not one case of constitutional reaction occurred. Some time ago, before reading their monograph upon "Tuberculin in Diagnosis and Treatment," I gave up the practice of shaving the arm, and have contented myself with thoroughly cleansing, followed by ether or alcohol. Recently I have adopted the plan of applying the Von Pirquet test on one arm and the Lignier's on the other, believing that this plan is entirely devoid of any danger, and that one acts as a check upon the other, and the information obtained by using both to be more reliable. In other words, only those patients can be pronounced positive that react either to the Von Pirquet or the Lignier's or both.

Several investigators have attempted to use the integumental application of tuberculin therapeutically; the objection to this method is the difficulty of regulating the dosage, there being no way of telling just how much of the tuberculin is being inoculated.

During the past year I have made over six hundred tests upon patients, healthy individuals, and individuals suspected to be tubercular. (I employed the methods of Calamette, Von Pirquet, Morro and Lignier.) Records of many of these have been kept; I wish to submit a brief summary of the results obtained.

The Von Pirquet test was made on twenty-four apparently healthy individuals, mostly nurses at the City and County and National Jewish Hospital for Con-

sumptives of Denver. Of these twelve gave a negative result, ten gave a positive reaction, and two a doubtful one. Of the ten who gave a positive reaction one had lost both parents with pulmonary tuberculosis. One had an enlarged thyroid gland; one had had pulmonary tuberculosis seven years previously; in this case the reaction came late and lasted for some time, which bears out the statement of Wolff-Eisner that a late and lasting reaction indicates a latent lesion. One gave a history of having had tuberculosis four years before. Five gave an absolute negative history.

Seventy-seven in the early stage of pulmonary tuberculosis were given the Von Pirquet test. Of these fifty-six gave a positive reaction, one gave a slight reaction, and sixteen were negative. Of the sixteen that gave a negative reaction, seven had t. b. in their sputum. Four gave a late and lasting reaction, the beginning of illness dating six, four, three and two years, respectively.

Twenty-nine in the moderately advanced or Turban second stage of the disease were given the test. Of these thirteen gave a positive reaction upon the first test, and seven more upon repetition of the test. In one patient among the latter, the initial scarification inflamed and she showed some disturbances of her general health, which, however, only lasted a few days. This was the only case in which a constitutional disturbance occurred from the numerous local dermal tests applied. One gave a doubtful reaction. Eight were negative, all of whom had t. b. in their sputum. It is not unlikely that some of these cases, instead of being moderately advanced, were in reality advanced cases, and failed to react for the same reason, that so many advanced cases fail, namely, that they were already so saturated with the toxins of the t. b. that a little additional toxine in the form of tuberculin

failed to produce any reaction. Of those that gave a positive reaction one did not have t. b. in his sputum.

Fourteen advanced cases were given the test. Of these five reacted, six were negative, and three showed a slight reaction. Upon repeating the test in the last nine cases, six gave a reaction and three were still negative. The reaction in four of the six was rapid and transitory. One gave a late and lasting reaction. Of the six who gave a reaction upon repeating the test, two are improving, four are either stationary or growing worse. The three negative cases are now dead. Of the five who gave a positive reaction after the initial test, four have left the hospital and are working. One is still in the hospital and improving.

The Wolff-Eisner or Calamette conjunctival test was applied to thirty-one cases in all. Twenty-two in the early stage, of whom eleven reacted positive, eleven were negative, and nine in the moderately advanced stage, of whom seven reacted positively, and two negatively. All of the eleven in the early stage who reacted negatively, are practically well at this time, most of them working either here or in the East. These patients at the time of the test were considered as being cases of arrested pulmonary tuberculosis, and the absence of any reaction from the conjunctival test confirmed the clinical findings as only one had t. b. in her sputum.

One hundred and two patients received the Von Pirquet test on one arm and the Lignier's on the other. Of these fifty-nine were clinically considered to be either insipient or in the early stage of the disease. Of these fifty-four gave a positive Lignier, four were negative, and one slight. Fifty-six gave a positive Von Pirquet, two negative, and one slight. Of the fifty-four positive to both tests, forty-five had t. b. in their sputum.

Twenty patients were considered clinically in the second or moderately ad-

vanced stage. Of these twelve were positive to Lignier, two negative, and six slight. It is very probable that some of these cases classified as moderately advanced were really advanced cases, hence the large percentage of negative or slight reactions.

Fifteen patients were clinically considered to be in the advanced stage of the disease. Twelve gave positive Lignier, two were negative, and one gave a slight reaction. Of these fifteen only four were positive to the Von Pirquet test, five were negative, and six gave a slight reaction.

Three patients suspected of tuberculosis were given the test, the examination of whose lungs were negative. One was positive to both tests, and t. b. was finally found in sputum. The other two were negative to both tests; no t. b. could be detected after repeated examination of the sputum.

Two cases of tuberculosis of the spine gave a positive reaction to both tests, One case of acute tuberculosis gave only a slight reaction to both tests.

Three cases who gave a history of having had tuberculosis of more than ten years ago, having no symptoms during the past ten years gave a slight reaction after thirty-six hours, which increased in intensity to the fourth day.

From my experience with the various tests described, I believe that we have in the newer tuberculin tests valuable aids in the early diagnosis of tuberculosis. The occurrence of reaction in fifty per cent of apparently normal individuals does not in the least lessen its value, when it is recalled that the findings in the post mortem room indicate that a large percentage of individuals whose death was due to other causes showed evidence of a pre-existing tuberculous lesion. Nor does an occasional absence of a reaction in an individual who clinically gave the symptoms of tuberculosis detract from their

value, as the failure can in many instances be ascribed to faulty technique in applying the test. A test can only be pronounced negative after a second and even a third application; this was not done in most of those here reported.

A negative reaction after repetition of the test in an advanced case of tuberculosis, while not of much value diagnostically, seems to indicate an early lethal termination. In an arrested case of tuberculosis the tests (especially that of Lignier's), give rise to a slight reaction as evidenced by a dozen or more papular eruptions, beginning thirty-six to forty-eight hours after the application and increasing in intensity up to the fourth or fifth day. This seems to me to indicate that the tuberculin antibodies in the blood, long dormant and sluggish, are aroused to activity in order to resist the infection as applied locally. It is true that I have not as yet sufficient data to base this conclusion upon. I feel that if it is correct, we have in this test a valuable aid to determine whether the disease has been arrested or not.

Finally it should be distinctly understood that reliance is not to be placed upon any single test; a case can only be pronounced tuberculous after a careful investigation of the patient's history, possible exposure to tuberculous infection, a thorough physical examination, and a positive integumental tuberculin test. If the patient gives some suspicious subjective symptoms, such as a gradual loss of weight, anorexia, or a slight afternoon rise of temperature, together with a positive integumental tuberculin test, even though the physical findings are negative or indefinite such an individual should be regarded as tuberculous.

Most of the patients upon whom these tests were applied were in the wards of the National Jewish Hospital for Consumptives in charge of the Medical Staff,

whom I wish to thank for their kindness to me. I wish, also, to acknowledge my indebtedness to Mr. Arthur Margot, my efficient assistant in the laboratory of the National Jewish Hospital for Consumptives for valuable assistance.

#### DISCUSSION.

**Dr. W. T. Little:** I think the point that Dr. Pogue wished to emphasize in his paper was the fact that tuberculosis is essentially a disease of childhood, and I doubt if the profession has really grasped that fact as thoroughly as it should. We have believed ever since Koch's discovery of the tubercle bacillus that inhalation was the chief mode of infection and if the sputum was properly cared for we are safe. The work of Ravenel has demonstrated the readiness with which the tubercle bacillus passes through the healthy mucous membrane and enters the circulation to be deposited somewhere within the body, either in the mesenteric glands or commonly in the lungs, usually in the apices. To prevent tuberculosis then is to prevent the infection of children. This is a matter of immense importance. We have known for a number of years that infected milk was a possible source of disease in children, but the importance of preventing infection from other sources I think has been lost sight of. We all know how infants habitually place everything in their mouths that they pick off the floor; how careless mothers allow their children to play for hours on dirty floors, in the street or in public places wherever they may be. There is no question but these habits are the frequent means of infecting infants. Dr. Pogue lays a great deal of emphasis upon the disposal of the sputa, and I think is inclined to make us believe that when that is done we have done all that is essential. But the work of Rosenberger has shown that tuberculosis is a bacteriemia and not a local disease, and that tubercle bacilli are found in the blood in the earliest stages of the disease; that they are passed off in the feces and in the urine as well as in the sputa, and it would seem then if we are to carry our prophylaxis to the thoroughness with which we should that it would require the disinfection or at least the care of all of the discharges from the body.

Dr. Simon's paper is a most interesting one and he has covered the subject very thoroughly. I have not had the experience with the several tuberculin tests that he has, but I have used the Von Pirquet cutaneous and the sub-cutaneous tests. The ophthalmic test I have not used because of the danger that has been reported as accompanying it. My understanding from reading the literature on the subject is that the Von Pirquet cutaneous test is by far the easiest and safest and entirely dependable in children, but in adults it does not give us much practical information. An infection that may be entirely latent or healed would show the reaction, and if we are using the test to determine whether we are dealing with tuberculosis as a disease or not we are apt to be misled by a positive reac-

tion from the Von Pirquet test in the adult; whereas the sub-cutaneous test will not react unless there is more than a healed lesion present.

**Dr. J. F. McConnell:** I enjoyed very much hearing these papers. I think that Dr. Pogue is eminently right in his conclusions. I am not so sanguine as Dr. Little in regard to the bacteriemic feature of tuberculosis. I think that Rosenberger's work has been or will be largely discredited in the near future. During the past winter I worked six weeks in the East and found that it was almost impossible—so far as I saw it was utterly impossible—to get any such results as he claims. In going into his work rather thoroughly I found that he had practically depended altogether upon the results obtained from the use of one guinea pig and such an assumption based on such premises I think is rather to be viewed with distrust. In regard to the tuberculin test, the integumental and the conjunctival reactions, I have tried the old sub-cutaneous, the cutaneous of von Pirquet, and the percutaneous test of Moro. I like the percutaneous test of Moro better than any of them. It is very simple, there are no precautions that are necessary other than the removal of fat from the skin by washing with ether, and it is very easy of application. If physicians make the ointment themselves or have it made by a druggist they ought to see that the lanolin is heated from twenty to thirty degrees before it is mixed with old tuberculin in order to get a thorough mixture. Without that it is not very well taken up. The Moro test I think is very, very satisfactory. It gives results in more cases than any other. In a series of sixty cases in the last two years in which I have used the Moro and the von Pirquet, I found that the Moro was very much more satisfactory. In known tubercular cases the Moro has given the reaction many times where the cutaneous test would fail. I have used the one as a control of the other in these cases. The integumental reaction can be used on the forearm or on the abdomen just below the xiphoid cartilage is a good site, it does not need any dressing at all. It is very simple, it is put on in thirty seconds to a minute and gives positive results in one to three days. It does not require any distinct watching. The use of it on the fore-arm is to be preferred I think because it is so much easier to get at, and especially for a female patient, it is very much easier to apply it. The results, as I said, are uniformly good. The conjunctival test I used when it first came out, but I haven't used it lately at all because of some unsatisfactory results, and because it is not conclusive in its results. I am very pleased indeed to have had the privilege of hearing these papers.

**Dr. George A. Moleen:** Just a word with reference to Rosenberger's having found tubercle bacilli in the blood. If there is anything which should give that idea support it would be the criticism to which Dr. Rosenberger has been subjected. I took occasion this summer to go down to Rosenberger's laboratory and had the pleasure of looking over many of his slides. Certainly the slides which Dr. Rosenberger showed me were very convincing and were not limited

to those of guinea pig work. He showed me and spoke of some slides from tuberculous kidneys, some from glandular adenitis and others. While, since that time, I have seen a great deal of literature in the state journals and abstracts, unfortunately I have only seen one which has been in support of Rosenberger's findings, and that was a quotation from the *Lancet*. Probably I have overlooked some, but most of the articles that I have seen have been criticisms, and not only in the literature, but also in personal conversation; and in Rosenberger's own city, in the Philadelphia Medical Club, when having remarked that I had had the pleasure of seeing Rosenberger's slides, an eminent pathologist there said: "Well, Rosenberger is the only man who can find them." I just want to mention that to clear up two points in defense of Rosenberger.

Dr. Kate Lindsay: I suppose you are all tired, but I would like to say a word or two toward making Dr. Pogue's paper practical. Now, if there was anything proven at the Anti-Tubercular Congress in Washington it was that tuberculosis is a house-air disease, and most of the infection originates in the homes. Now I will illustrate how the infection is passed to the children in the home from the vitiated home atmosphere. This summer I was called to see a patient, a farmer's wife, who occupied a small, comfortable four-roomed house. The sleeping room was on the north side, ten by fourteen. It had one north window, and in that room slept the father and mother and two children. The window was down at the top about four inches and up at the bottom about as much, and you can judge about how much circulation of pure air there was when I tell you that the mother was decidedly tubercular. It was to see her I was called. I examined her children, a six-year-old boy and a ten-year-old girl. The girl had enlarged cervical glands; the sixth year molars, also the middle incisors were carious; she had adenoid growths and enlarged tonsils, as well as the boy, whose nutrition was much better than hers. Now the question with me was how to improve the hygiene there—in other words, how to get for each member of the family pure individual domestic air. We talk about individual drinking cups, individual combs, individual tooth brushes and everything else individual, but we are content to breathe over and over our own stale air and everybody else's, and just how far air currents flow you can tell by the fumes of tobacco. I am very sensitive to that and when my medical brother here commenced to smoke, I in the further corner of the room got some of the smoke, inhaled some of the nicotine. Now the question was how to get that family separated so they would each have individual clean air. The sitting room had two east windows, a big bay south window and a door to the south, and I said, here is the room for them to sleep in. Take the plants out of the bay window and put the mother in there with the three windows open, give each one of the children a window to the east and let the father have the door, and thus procure for each of them individual, clean air to breathe at

night. Our hygienic knowledge is worth little if we don't make it practical for the home. We have trained nurses that go through the city and visit the schools and their reports show the domestic sanitary sins, also the hygienic and sanitary sins of the school room very plainly. Let us start the educated nurse to work in the home. Let them educate the family in practical hygiene, let every doctor do his duty, for do not forget the fact that there are hundreds and thousands in this country, in every farm home, in the town home, in the mechanic's home, in what is called the comfortable homes of the middle class, who are bound to contract tuberculosis simply because they are breathing a vitiated house air and nobody is there to tell them the right way to procure pure air. We are not doing our duty. We are, as the preacher says, "having the blood of souls on our skirts" because we do not go to work and start a sanitary educational campaign for the middle classes as well as for the slums. And if we do not go to work and draft a plan for the education of hygienic and sanitary educators we are not doing our duty, for by sanitary education in the home we will do more to stamp out tuberculosis than by all other methods. For self-protection teach the people how to keep up their nutrition and how to get pure individual air.

Dr. O. M. Gilbert: I have had very little experience with tuberculin. I have, however, made some observation of the work of others. I have two excellent men in the building in which I am located who use tuberculin, whose work I have observed, and I must say that I am very favorably impressed with it when it is used in properly selected cases. There is one thing that has appealed to me in my own limited personal experience and in the observation of the work of others and that is the directions which are given for its administration. I refer to the habit or custom of giving it in arithmetical series, the series being so arranged that you give of one dilution a tenth of a cubic centimeter, increasing a tenth at each dose until you have given the limit of that series, and then one-tenth of the next series, etc. Now the practical difficulty in the way of this is that you increase one hundred per cent. in the jump from your one-tenth of a cc. of a dilution to two-tenths cc. When you get up to where you jump from nine-tenths cc. to one cc. of the next dilution you increase only ten per cent. This is certainly illogical to say the least. Sahli has suggested a method of overcoming this which seems much more practical, but a little more difficult in some of its details; i. e., to increase by geometrical progression instead of arithmetical. In other words, to increase twenty-five per cent. at each dose. The details by which that may be done are too great to go into in a limited discussion, but it can be worked out reasonably practically, and it is a much more logical thing to do. It is needless to say that many of the unfortunate reactions are gotten in that jump from one to two—that increase of one hundred per cent. or even of fifty per cent., as the case may be, and then

the needless time consumed by the smaller increase from eight to nine, nine to ten, etc.

I have had quite a little experience with some of the newer tests mentioned by Dr. Simon—the ophthalmic and the von Pirquet—but not the Moro or the Lignier, and I have been quite favorably impressed by these, especially as they are devoid of some of the objectionable features of the sub-cutaneous test, such as even the bare possibility of lighting up an old latent process, and the slight pain caused by the needle, to which some persons are very sensitive.

Dr. Gerald B. Webb: I am sorry, owing to a late train, that I did not get here in time to hear all of these papers. I thought I would speak of the recent introduction of the anaphylactic test in tuberculosis, and I will be glad at some time later to show you the corresponding test on some guinea pigs I brought up with me.

Yamanouchi, working in Vienna last year, brought out the tuberculin anaphylactic test in tuberculosis. For this you inject a rabbit with the serum of a patient suspected of suffering from tuberculosis today, and then tomorrow or 48 hours later inject that young rabbit with an emulsion of tubercule bacilli. If positive your rabbit will throw an anaphylactic fit; he begins to scratch his nose, he begins to breathe with a great deal of difficulty, he becomes paralytic, and suddenly throws himself on his side and dies. Now this is of very great value in the diagnosis of tuberculosis and he worked it out on a hundred cases with excellent results. Had I been here I was going to report to you some of our work. Roseneau and Anderson, who have done so much work on anaphylaxis in Washington, suggested to me to give tuberculosis to a guinea pig, and at the end of ten days, when they have become hypersusceptible, to inject the serum of a patient suspected to be suffering from tuberculosis; you then get a tuberculin anaphylactic reaction. I simply wanted to mention this as I was not sure, not having been here, that Dr. Simon has spoken about these tests.

#### DISCUSSION CLOSED.

Dr. G. R. Pogue: Before closing the discussion I should like to say a word in regard to the use of mercury in the treatment of tuberculosis, as referred to in Dr. Beggs' paper; not in regard to results, but in regard to some of the accidents that may follow the use of mercury in these cases. The number of cases that I have treated is not large enough for statistical purposes, but here are the results: Out of thirteen cases of tuberculosis treated with mercury, five had syphilis also. In these five cases I got the most beautiful results. In the eight cases of tuberculosis, or tuberculosis plus mixed infection, I got no positive results. On keeping track of the urine, five of them were found to have developed acute albuminuria, one a very severe case. I don't know if men who are using mercury in these cases have made a practice of watching the effect of mercury on the kidneys. In "Progressive Medicine," Dec.

1906, you will find a review of the action of mercury on the kidney and its detrimental effects. I simply want to call your attention to the subject.

In regard to the tuberculin tests for tuberculosis, there are a number of them. The reason for the many is that none of them are perfect. The one that comes nearest perfection is the old sub-cutaneous test, or hypodermic test, which is followed by a systemic reaction. I have heard a number of men say that they were afraid of it, afraid of lighting up some old foci and getting into trouble. In seven years' experience with this test I have never seen any bad results and I don't know of a man who has had a bad result from it. Trudeau reported some cases he was intending to test at different times. For some reason the test was delayed and during the delay the patients had severe hemorrhages. If these patients had received the tuberculin test, it of course would have been blamed for the hemorrhage, and a wrong conclusion drawn. Over a year ago, before attending the International Congress, I had tried the von Pirquet test, but made a failure of it from improper technique. There I learned the proper technique, and found my results more uniform, but the idea came to me that there was no way of controlling the amount of tuberculin absorbed, either in the ophthalmic, the von Pirquet or the Moro test. In the ophthalmic test, excessive secretion may wash out nine-tenths of the tuberculin, while a lack of secretion may allow absorption of all of it. In scarifying for the von Pirquet test you may get too deep and the exuded serum wash away the tuberculin or under a less extensive scarification part or all of the tuberculin might be absorbed. The same objection holds good against the Moro test. I made a modification of the von Pirquet test that I thought was my own, and it was for the time being, but in going over the literature, I found that three other men in different parts of the world had independently made the same modification, as Dr. Simon remarked, "Hamberger's idea of a partly sub-cutaneous test." I took a definite amount of tuberculin and set it under the superficial layer of the skin. I knew exactly how much of the drug was in the skin and it is very easy in this way to control the size of a test dose. The reaction was identical with von Pirquet's without the occasional systemic reaction from over absorption, a negative reaction in a suspected case called for a larger test dose.

In so far as Rosenberger's work is concerned, it is simply microscopic.

No laboratory or animal experiments have been carried out. A man sees something under the microscope that looks like a tubercle bacillus. The conditions under which Rosenberger's work was carried out were such that he is not justified in making such statements. In bacteriology all such work should be properly controlled and Koch's laws fulfilled before such statements are given for publication.

*IS CANCER ON THE INCREASE?\**

BY W. W. GRANT,  
Denver.

This question, so frequently asked, is generally answered in the affirmative. In the medical profession and among the people, the belief is prevalent that cancerous disease is on the increase. This belief is based, chiefly, on statistical data furnished by the most highly civilized and advanced countries of the world, and seems conclusive. A year ago the Pathological Institute of Berlin issued a report that the mortality from cancer had, since 1875, increased from four to fourteen per cent in Germany. The Registrar General's report of vital statistics for England and Wales in 1908 showed a great increase in the mortality from cancer, and, in a special investigation embracing twenty different countries (including our own), it is the expressed belief that the disease shows a tendency to increase in recent years. There is an exception to this in women under 55.

Switzerland and the Netherlands are the only countries out of the twenty which show a greater mortality than England and Wales, yet the mortality in these countries is less, in the prime of life, in disease of kidneys, heart and brain (apoplexy) than in the United States.

The twelfth census United States, 1900, shows a marked decrease in the *general* mortality list, but an equally marked increase in the mortality from cancer, as in the above mentioned diseases. Every source of information shows the same increase throughout the civilized world. The great general decrease in the United States is due chiefly to the lessened mortality in children under five years of age. From twenty to sixty years, there is a

small but certain decrease in the general mortality of 2 per 1,000. After sixty years of age, the *general* mortality has decisively increased in proportion to population.

All recognized microbic (and epidemics) diseases have lessened in frequency, except pneumonia and influenza; but the increase in cancer mortality is marked. More complete vital statistics and better and more accurate diagnosis does not explain this increase, which is real and not apparent.

In the United States, the cancer mortality has increased from about 9 per 100,000 population in 1850 to 29 in 1880, 43 in 1900, and, in the area of official investigation, the mortality increased from 1890 to 1906 to 70 per 100,000 population. Registration area embracing to date 17 states and composing about half the population of the country shows a cancer mortality of over 33,000 annually.

This increase is universal to the cities of the United States, as it is to those of the civilized world. The slight discrepancy in favor of the country districts is doubtless only apparent, as the victims finally go to the cities for treatment.

In England one man in eleven over 35 years of age will die of cancer, and one woman in eight, while more women die from cancer there than from consumption. In the United States, one man out of 17 over 35 will die of cancer and one woman out of nine will die of it—nearly as many as will die from consumption at all ages. While more women over 35 die from cancer than from consumption, one man in ten over 35 dying from consumption and one woman in 14 of same age period. From 35 to 39, one man out of 48 and one woman out of 13 will die from cancer. This increase and proportion is maintained steadily to the age of 55, after which age it gradually, but steadily, diminishes as to women. The cancer age

\*Read before Denver County Medical Society, March 1, 1910.



as to women is well established 35 to 55, and from 45 to old age in men.

About one-third of the mortality from surgical conditions is due to cancer. About twice as many men die from cancer as from typhoid fever, and five times as many women.

The organ that suffers most from cancer is the stomach, much more frequently in men; while in women, about two-thirds of all cases occur in two organs—the uterus and the breasts—during the child-bearing period of life, especially the latter part, about the change of life. Eliminating the generative organs of women, it is seen that more men than women die from cancer. Seventy to eighty per cent. of cancers in men occur in the alimentary canal, and there is evidence that cancer is increasing more rapidly among men than women. In men, about two-thirds of the cases occur between 50 and 75, and the larger percentage in women after 45, or between 45 and 55. In males, occupation seems to have little influence, though an outdoor life seems to enjoy a greater degree of immunity.

In the United States, nationality seems not to be conspicuous, but among Russians and Italians, with foreign born *mothers*, it seems to occur at a somewhat earlier age.

No discussion of this subject, with its great importance, is at all complete without some allusion to cause, prevention and cure. Unfortunately, there is no uniform opinion as to the cause, although it is believed to be infectious, and by many to have its own specific germ. It is known generally in medical circles that persistent, chronic irritation and ulceration frequently results in malignant degeneration, called cancer.

Cancer occurs most frequently in parts of the body easy of inspection, examination and treatment (with possible exception of stomach). It is believed that the

injuries and diseases incident to childbirth and lactation form the chief basis, or reason, for the common occurrence of cancer in the uterus and breasts. Infection of these parts may be important, but, without the previous damage to tissues, would be far less frequent. This is mentioned because of the well known fact that repair and timely cure is preventive of cancer in large degree. It is equally true that a ragged tooth, by its constant irritation of tongue or mouth, or of the lips by the constant and long-time use of a pipe stem, will, by injury or direct infection, invite degenerative ulceration. This constant, mechanical irritation and its effects will apply to every part of the body subjected to it. Personal hygiene and whatever conduces to cleanliness tends to prevent the occurrence of cancer.

At the present rate of increase it will soon rival consumption in its ravages. It is time to invoke a wide-spread public interest that investigation, now carried on almost wholly by medical men, may be supplemented by public recognition of the prevalence of an insidious disease that, in importance and mortality, is worthy of the immediate consideration of every good citizen and public official.

As to the cause of cancer, two views chiefly are held—the parasitic and traumatic. Before the gynecological section of the A. M. A. at Columbus, Ohio, in 1899, the writer read a paper on the prophylaxis of uterine cancer, from which I quote: "Observation and experience justify the belief that, as a lesion is such a common precedent condition to the development of cancer, it deserves to stand in a causative relation. The influence of persistent chronic irritation in ultimately causing malignant disease is well known, and I don't think it inconsistent with a specific cancer germ." As an illustration, the results of investigations in Denmark alone will suffice to convey the lesson.

The Cancer Research Committee in 1908, including the co-operation of 99 per cent. of the physicians of the country, report that in 92 per cent. of uterine cancers the women had borne children. In 14 to 20 per cent. of cancers infection is given as a cause; alcohol in 15 per cent. of cancers of esophagus, stomach and liver, while hereditary predisposition was traced in six per cent.

Speese of Philadelphia in a very interesting paper, with reports and collection of cases in *Annals of Surgery*, February, 1910, on malignant degeneration of diseases of the breast, originally benign, concludes that tissue changes resulting from chronic inflammation and scar tissue from injuries is a predisposing cause of cancer, and 15 per cent. of reported cancers of breast were originally simple or benign. Some few pathologists deny this, claiming that though both diseased states may co-exist, yet they are separate and independent, and that cancer is always due to misplaced proliferative cell growth—the old Conheim theory. The recently expressed opinion of the distinguished surgeon, Mayo Robson, that “probably all cases of cancer follow a pre-cancerous condition such as ulcer” is, I believe, the judgment of most surgeons today. Whether, therefore, the disease is parasitic, traumatic, or both, as I believe, we have some definite data upon which to stand and from which to deduce logical conclusions. In the last decade, the proportionate mortality should have decreased from earlier diagnosis and more thorough treatment. Interesting experiments and investigations as to diagnosis and treatment are being prosecuted in many parts of the world. Criles’ original work on the hemolytic action of cancer serum, followed, and in large measure confirmed, by Weil and many others, is a distinct advance step in diagnosis in the early stage of the disease, but of no

value in the advanced. It is of value in about 60 per cent. of the early cases, but as the hemolysins are present in certain other diseased states, though not in such proportion, the reaction is of uncertain, or doubtful, value at present. In this investigation the serum of the patient is mixed with washed red blood cells from healthy individuals, and hemolysis, if present, is noted in a few hours by the liberation of the hemoglobin. Pursuing the investigation along these lines, Pfeiffer and Finsterer have confirmed the steady and regular drop in temperature (shock). By injecting beneath the skin a cancer serum, followed in a few hours by cancer juice, if the patient is suffering from cancer the peculiar anaphylactic drop in temperature is observed. It is considered of confirmatory value.

Not to mention other blood tests, it is interesting and instructive to report the very recent investigations of Elsberg, Neuhof and Geist of New York, published in the February number of the *American Journal of the Medical Sciences* of the present year. The test is the injection of 1 c. c. of normal blood serum from a healthy individual, washed and mixed, with normal salt solution and injected hypodermically. In five to eight hours a bright, raised, crimson spot (illustrated) 2 by 4 cm. in dimension, appears at the site of injection and disappears in 10 or twelve hours if patient has cancer; 432 patients were thus treated. In 69 cases with positive, or possible, carcinoma and 9 cases of suspicious cancer the reaction was positive in 90 per cent., negative in the advanced cases, the latter corroborating Criles’ results. In patients suffering from other diseases the reaction was negative in 94 per cent. In suspected cases the reaction was positive in 78 per cent. In seven cases of sarcoma the reaction was positive in four. In these blood tests of positive reaction the con-

clusion reached is that with the complete removal of the disease the reaction weakens and becomes negative finally; with recurrence the reaction reappears. General anesthesia invalidates the test. This is the simplest and promises to be the most valuable, of the blood tests now under investigation for differential and confirmatory diagnosis of cancer in any part of the body.

In the experiments of Fischer and Neuhauser (*ab. A. M. A., Jan. 1, 1910*) on a peptic splitting ferment in the stomach contents of gastric cancer in differential diagnosis, a positive reaction of tryptophan was found in 30 of 32 cases of positive carcinoma of the stomach, and in four of six *suspicious* cases of cancer, the test being negative in other stomach disorders, including ulcer, the common precursor of gastric cancer. The examination is made one-half to three-quarters of an hour after a test breakfast, excluding blood and pancreatic juice, which nullify the test. The value of the test rests upon the fact that the cancer ferment liberates tryptophan much sooner (four hours) than occurs under normal or other diseased conditions of the stomach. The frequency of gastric cancer, the difficulty of early diagnosis, and consequent late operation explains, in considerable degree, the extreme mortality in cancer of the stomach.

As successful treatment depends so much on early diagnosis, these additional resources are worthy the earnest consideration of every physician and surgeon. At the same time, one must not forget "that these tests (however important and significant), as with other laboratory tests of like nature, cannot take the place of careful anamneses, and the adoption of clinical measures which have been proved feasible and dependable."

By a thorough examination and investigation of the clinical history, with appreciation of the meaning and significance of

the signs and symptoms, subjective and objective, and aided by such scientific tests as may be available, we should be able to make, as a rule, an early diagnosis. The probability and possibility of a cure depend so much, almost entirely, in fact, on this consummation, that too much stress cannot be laid on its importance. To regard appearances lightly, and to weigh symptoms with little concern, is often unjust to the patient and brings only grief in its train. The practice of making exploratory incisions for the purpose of making a microscopic diagnosis, unless the *operation* can be done *at the time*, is unjust and indefensible, because it always aggravates the local disease and the systemic infection, and *often* determines the fatal issue. At present, the only promising recourse is *early complete operation*. Serum therapy is the logical corollary of the blood work now being done. So far, it has failed in this disease. But worthy of special mention is the scientific work along this line of San Felice of Messina. For 15 years he has been engaged in it and it is now claimed with encouraging results. It is the most promising field of research today, and like surgery and other methods of treatment, if found available, will be in its early application.

At present, X-rays and caustics have a very limited field of usefulness. Maybe, in skillful hands, justifiable in certain superficial ulcerations, but where there is much hardening or deep tissue involvement, are harmful in results. Surgery is still our chief reliance. Its action is two-fold—conservative by prophylaxis and radical in excising all diseased tissue. If the profession and the people are impressed with the fact that cervical lacerations and chronic inflammatory changes, due usually to infection, and similar conditions in other mucous or mucocutaneous and skin surfaces, especially warts and

moles, predispose to malignant degeneration, there will be fewer cancers and a decreased mortality from treatment. To restore the integrity of parts, and tissue metabolism is to prevent the development of malignant disease. Palliative measures are hopeless and half-way measures dangerous. Neither should have any place in our armamentarium.

### **BERI-BERI.**

Recent investigations have thrown much light upon the etiology of Beri-beri. The work of Dr. Fraser and Dr. Stanton in particular tends to show that this disease, similar to scurvy, is due to an unbalanced dietary of those people who subsist largely upon polished rice. In the process of polishing rice, certain ingredients are lost which may roughly be estimated by the contents of phosphorous pentoxide. The use of unpolished rice or the addition to the diet of the cheap polishings obtained from the mills, will prevent polyneuritis. These results are extremely interesting, especially to those who have concern with the prevention of this hitherto mysterious disease.

The sixth annual conference of the Council of Medical Education and the fifth annual conference of the Committee on Medical Legislation of the American Medical Association held a joint meeting at the Congress Hotel, Chicago, on February 28th, March 1st and March 2nd. President Henry S. Pritchett of the Carnegie foundation delivered an address on the "Obligation of the University to Medical Education." President J. G. Schurman of Cornell University spoke upon the "Relation of the University to the Medical School" and Dr. Victor C. Vaughn, Dean of the Medical College at Ann Arbor, on "Some of the Functions of a University Medical School." Prof. Roscoe Pound of the University of Chicago delivered an address on "The Value of Uniform State Laws Regulating the Practice of Medicine." Many other addresses and reports of committees were presented to the conference and their transactions will make interesting reading for any one interested in the betterment of the medical profession in America.

## **Progress of Medicine**

### **INTERNAL MEDICINE.**

Edited by

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### **A STUDY OF PNEUMOPERITONEUM.**

WITH A MEANS FOR ITS DIAGNOSIS.

W. W. Herrick (*Arch. of Inter. Med.*, March, '10), reviews the generally accepted signs of free air in the peritoneal cavity, and shows that they are all unreliable. The most reliable being the diminished or absent area of liver flatness. He quotes Osler, Janeway, Sprengel, McCrea, Cabot, Kircheim, and others in evidence of the unreliability of this sign. It is shown that all the conditions may exist in extreme tympany, especially with paralyzed abdominal walls.

He, therefore, devised a means by which these signs might be tested experimentally, and which could be used for diagnostic purposes as well. The experiments were carried out on ten dogs and four cadavers. By means of a small cannula with several perforations at an unequal distance from its point and having an obtuse pyramidal extremity, he enters the abdominal cavity after making a slight incision through the skin. Air is then introduced in measured quantities. The first sign obtained upon its gradual introduction is a peculiar high-pitched, metallic, slightly liquid gurgle and bubble sound, heard with the stethoscope, and due to the rapid gravitation air skin. Air is then introduced in measured least dependent part; which chances to be the space between the epigastrium and the liver when the dog is in the dorsal position. When 50 c. c. of air has been introduced, a change in the percussion note is noted, being higher in pitch more tympanitic and slightly metallic; 145 c. c. were necessary to obliterate liver dulness. The liver dulness disappears very gradually,

beginning in the epigastrium or in the region of the portal fissure.

It was found necessary to introduce an average of 205 c. c. to appreciably affect the contour of the abdomen, and about 800 c. c. to cause embarrassment of respiration and circulation. It must be remembered, however, that these experiments were upon dogs of an average weight of 11 kilos. The observations on the cadavers were less satisfactory, the difference in rigor mortis and the occasional presence of gas in the peritoneal cavity affecting results.

For diagnostic purposes, the author sees no objection to the introduction of this instrument. He connects to it an ordinary laboratory wash bottle, with perforated stopper and glass tubing, by one-half yard of rubber tubing, and a rubber bulb with cut-off. The bottle is two-thirds filled with water and the air exhausted by suction. It is previously tested to be sure that it is air tight. If there is air in any portion of the free peritoneal space, it will be drawn by this negative pressure into the bottle, and will be readily demonstrated by the appearance of bubbles in the immersed glass tube. A single bubble, or at most two, may be drawn from the apparatus itself, but more than this indicates, with practical certainty, that there is free gas.

He has only had an opportunity to use it clinically in one instance, in this case the usual clinical symptoms indicated with practical certainty the presence of perforation. The apparatus, however, gave negative results, and the operation proved the absence of perforation.

O. M. G.

#### THE USE OF ADRENALIN IN ACUTE ASTHMA.

Adrenalin has been used for asthma in this country for some time, but I think principally in hay asthma. Matthews (*Brit. Med. Jour.*, Feb. 19, '10), gives his experience with this remedy. His atten-

tion was first called to it by observing the effects of cocaine applied to the mucous membranes in these conditions and he argued, from the similarity of its action, that adrenalin might do the same thing and be more lasting in its effects as well as free from danger of the "habit."

He has used it in typical spasmodic asthma with invariable relief. At first he used it altogether as a nasal spray of a 1-2000 sol. but later found that he could obtain relief by rectal suppositories containing it, but not so promptly.

(I have used it subcutaneously in conjunction with morphine in some very obstinate cases with happy results, but have had it completely fail in two cases.—Dept. Ed.).

O. M. G.

#### CAUSES DETERMINING THE PRODUCTION AND DISTRIBUTION OF THE ERUPTION IN TYPHOID FEVER.

Greenhalgh (*Brit. Med. Jour.*, Feb. 19, 1910), calls attention to the dissimilarity of the distribution of the eruption in typhoid to that of other primary blood infections and attempts to explain it upon the theory of a vaso-dilator abdominal reflex, by which the bacilli are permitted to clump in the slowed capillary stream. He quotes Head, Ross and McKenzie, as having shown that afferent impulses from disordered viscera excite sensations which are referred to the sensory terminations of the spinal nerves directly in relation with the spinal cells receiving such impulses. Head has shown that the cutaneous area supplied by the spinal nerves from the ninth to the twelfth inclusive, was that which is in association with the intestines and spleen and it is well known that this is the area upon which the preponderance of spots occurs.

Greenhalgh mentions, in support of his argument, the fact that the abdominal cutaneous reflexes are very much depressed, as shown by the *tache cerebrale*, slow

or absent pilo motor action (goose skin), the tendency to abdominal perspiration and sudamina.

The rose spots do not occur until this depression of the vaso-constrictor has become marked and the specific agglutinins have accumulated in the blood sufficiently to cause the Gruber-Widal reaction to occur, thereby favoring the clumping of the bacilli. The bacteriolysins continue the work of the agglutinins and in a few days the accumulated bacilli are devitalized and dispersed.

O M. G.

#### TYPHOID FEVER IN A HEMOPHILIC SUBJECT.

Probably the most of us, who have had experience with hemophilic subjects, would rather shudder at the thought of carrying one through an attack of typhoid fever with its tendency to epistaxis intestinal hemorrhages, etc. Unfortunately very few cases have been reported, and the evidences have been somewhat conflicting in those that have. Chas. W. Larned (*Amer. Jour. Med. Sci.*, March, '10), reports such a case. The patient was a man forty years of age whose family—contrary to the law which generally governs the transmission of hemophilia—was a hemophiliac. One paternal uncle, a paternal grandmother, and several paternal cousins were bleeders. Two of his brothers and one sister have shown some hemophilic tendency. The patient showed his hemophiliac tendency in early childhood, bleeding many times until he fainted from loss of blood. About seven years ago, he came very near bleeding to death as the result of a removal of an ingrown toe nail.

His typhoid began with the usual premonitory symptoms, including almost daily epistaxis which continued at intervals throughout the attack. In the midst of the attack the patient vomited, and the vomitus contained bloody mucus which was supposed to have been swallowed from the naso-pharynx. There was no

blood in the stools at any time. An examiner of the blood gave practically normal conditions, except for the anemia of typhoid and for the coagulation time which was 18 minutes, instead of the normal six or eight (Boggs instrument). An interesting fact, is that the early administration of calcium lactate reduced the coagulation time to 12 minutes, but it could not be reduced any more. Whether or not the calcium lactate prevented the hemorrhages from the intestinal canal, cannot be determined, but it would at least seem well to administer it in such cases. O M. G.

#### ICTERUS AND GALLSTONES.

1. In about 80% of the cases the first attack of gallstone colic is due to an infected hydrops, in 20% there is bile in the gall bladder.

2. In about 57% of the cases there is a large occluding stone at the neck of the bladder or in the cystic duct, 43% have small stones similarly situated. The first usually have unsuccessful attacks of colic, the second occasionally, but either, partially (lodgment in ductus chledochus) or completely (escape into duodenum) successful attacks may occur in either class.

3. In 90% of the unsuccessful attacks (stone remaining undisturbed in the bladder or the cyst duct) the attack runs its course without the appearance of icterus. The majority of first attacks fail to cause icterus.

4. In 10% of the unsuccessful attacks icterus develops; an "inflammatory" usually aseptic icterus due to an extension of the inflammation to the bile ducts or the liver parenchyma. If the stone is lodged high in the cystic duct obstruction of the duct may be a contributing factor.

5. In very severe first attacks an occluding stone may be forced into the ductus choledochus, but oftener small stones are driven from the cystic duct and there

develops a real lithogenic icterus usually due to infection.

6. Patients with unsuccessful attacks without icterus as well as those with inflammatory icterus should be operated during the attack, if real lithogenic icterus develops conservative treatment is indicated unless the gravity of the infection compels interference. (*Deutsche Medizinische Wochenschrift*, No. 8, '10.) W. J. B.

#### SURGERY.

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#### GASTROJEJUNAL ULCERS.

(PSEUDOJEJUNAL ULCERS.)

William J. Mayo (*Surg. Gyn. and Obst.*, March, 1910) says that 1,141 gastrojejunostomies have been performed at St. Mary's Hospital, and that of this whole number not a single case developed true jejunal ulcer. Quoting Paterson, he says: "Jejunal ulcers are the result of altered physiological conditions produced by operation; gastrojejunal ulcers are probably a direct consequence of operation." Mayo thinks that most gastrojejunal ulcers are due to technical failures in the operation itself rather than an unavoidable condition which, up to the present time, true jejunal ulcer appears to be. He appends a report of three cases of the pseudojejunal type of ulcer. H. C.

#### LIPECTOMY.

Howard A. Kelly (*Surg. Gyn. and Obst.*, March, 1910) again presents his operation of lipectomy, which he first performed ten years ago. The most frequent place for accumulation of fat, especially in women, is in the great transverse roll which hangs across the lower abdomen, below the umbilicus. He believes this unwieldy mass should be removed. An incision above and below is made on the pendulous mass, and carried down to the

deep fascia. In this way a wedge of fat and skin extending from flank to flank is removed. The incision must be carefully covered with hot gauze while operating and the incision sloped inwards, so that apposition will be perfect. The fat is sewn together with catgut and the skin with silkworm gut or horse hair. A small cigarette drain is left in each end of the incision. The patient may be allowed out of bed in two weeks and should wear a bandage for several weeks more. He reports eight cases, three in association with umbilical hernias, and says that all cases have been immensely relieved.

H. C.

#### PERINEAL PROSTATECTOMY.

Hugh Young (*Journal of the American Medical Association*, March 5, 1910) reviews 145 cases of benign hypertrophy of the prostate and 111 cases of carcinoma of the prostate. As a diagnostic point between these two he points out that in benign hypertrophy the gland is usually soft to palpitation and there is only rarely induration of the seminal vesicles, while in carcinoma prostate is usually indurated, often of a wooden hardness, and the seminal vesicles are indurated.

The cystoscope shows enlargement of the lateral lobes rarely in either benign hypertrophy or carcinoma, while the median lobe is usually enlarged in benign hypertrophy and very rarely in carcinoma.

Carcinoma appears about one-fourth as often as benign hypertrophy, and very often occurs without any hypertrophy. When the two occur in the same case the cancer usually involves only a transverse layer beneath the posterior capsule. Carcinoma grows upward into the space beneath the trigone and not toward the rectum nor the bladder.

In cases in which cancer was suspected the prostate was exposed and palpated; if hard and nodular, and showing a pe-

culiar gritty sensation to the knife, and numerous small yellowish dots and lines in a grayish stroma, carcinoma was suspected, and a frozen section taken immediately. If found to be malignant, the membranous urethra was severed, the anterior and lateral surfaces of the prostate freed, the bladder was then divided just above the juncture with the prostate, cutting across the trigone about 1-2 cm. below the ureters, and finally the vasa differentia and seminal vesicles with the entire prostate, prostatic urethra, capsule and cuff of bladder were excised in one piece. An anastomosis between the large opening in the bladder and the membranous urethra was made.

Patients are gotten out of bed about the third day.

Of the 400 cases including those cases of carcinoma of the prostate, Young's mortality has been 13, or 3.25 per cent.

F. W. B.

#### GYNECOLOGY AND OBSTETRICS.

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#### CHLOROFORM IN THE TREATMENT OF ECLAMPSIA.

Ward (*Am. Jour. of Obst.*, March 1910) reports the modification of the usual treatment of eclampsia at the Sloane Maternity Hospital. In view of the recent work, in which it has been shown that small amounts of chloroform produce marked metabolic changes, and necrosis of the liver, it has been concluded that the use of chloroform in the toxæmias of pregnancy can only increase the lesions, which these toxins have already produced. Accordingly, the convulsions are no longer controlled by chloroform, and when, for the introduction of the balloon or for any obstetrical procedure, an anaesthetic is required, either is given. The usual treatment is prescribed; forcing of water, chloral, hot packs, etc., and the uterus emptied as soon as possible.

In the twelve cases of eclampsia which have occurred at the Sloane Maternity Hospital during the last year there have been no maternal deaths. It is believed that pre-eclamptic toxæmias have been arrested short of convulsions and that the mortality in eclampsia has been diminished by omission of chloroform from the treatment of these conditions. C. B. I.

#### SURGICAL TREATMENT OF A FREQUENT CAUSE OF DYSMENORRHOEA AND STERILITY.

S. Pozzi (*Surg., Gyn., and Obst.*, 1909, IX, III) describes an operation to which he gives the term "Stomatoplasty by commissural evidentment." The operation is limited to nulliparous women with a cervical metritis due to stenosis. The operation is thus briefly described:

The cervix, grasped anteriorly and posteriorly by bullet forceps, is dilated with Hegar's dilators to number 20 or 30 and split bilaterally to a distance of 2-3 cm. The uterus is now curetted and an intra-uterine aseptic flushing is followed by an injection of per chloride of iron and this by another flushing. Now a navicular piece of tissue is removed from each lateral denuded surface and the cervical mucosa and vaginal mucous membrane united over the excavation by interrupted sutures. In this way the flaps which resemble those of a trachelorrhaphy are kept apart instead of being sutured together. Pozzi has had very good results from this operation.

C. B. I.

The *California State Journal of Medicine* states that in the past year there has not been a case of rat plague in San Francisco, but the infection among ground squirrels in several counties of California has assumed such vast proportions that its eradication will probably be a labor of years. Of 60,000 squirrels examined over 300 were found to be positive for plague. Active suppressive measures are being taken under the direct supervision of Dr. Rupert Blue, of the U. S. P. H. & M. H. Service, who has been made a Fellow of the Royal Society of Tropical Medicine of London in recognition of his remarkable work in fighting the plague in San Francisco.



## OPHTHALMOLOGY.

Edited by  
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"OPTIC NEURITIS," "CHOKED DISC" OR "PAPIL-  
LEDEMA"—TREATMENT, LOCALIZING  
VALUE AND PATHOLOGY.

Sir Victor Horsley's paper on the above subject was read before the Section of Ophthalmology at the last annual meeting of the British Medical Association (*Br. Med. J.* March 5, 1910). The subject is one to which the author has given special attention and to which he has made many contributions during the past twenty-five years.

The points to which he now particularly directs attention are:

(1) The localizing diagnostic value of papilledema;

(2) The part of the disc which first becomes oedematous as a consequence of increased intracranial tension;

(3) Proof of Mr. Marcus Gunn's view of the mechanism whereby the macular or star figure is produced;

(4) The phagocytes of the retina in neuro-retinitis and their origin.

The first point is one of outstanding importance. After discussing the arguments of those who take a different view, he advances additional evidence in support of his contention that the papilloedema begins on the side of the tension lesion, and is, as a rule, more severe on that than on the opposite side. He brings forward new evidence in support of this opinion, which appears fully to justify his contention that when a case of apparent contralaterality of tumor and papilledema occurs the pressure conditions must be reconsidered, inasmuch as when all the clinical observations are collated the papilloedema is the safest guide for the operator to follow. He points out that the severity of the intracranial pressure

should be judged by the secondary histological changes in the disc and not by the simple amount of swelling. Next in importance to correct localizing diagnosis is early diagnosis, and Sir Victor Horsley in this paper brings forward further evidence supporting the view he expressed three years ago, that the papilledema always begins at the upper nasal quadrant of the disc and therefore in suspicious cases of brain tumor this region of the disc should be carefully and constantly watched.

In discussing the production of the fan-shaped radiation in the macular region, and especially between the macular and neighboring margin of the disc, Sir Victor Horsley confirms the conclusions of the late Mr. Marcus Gunn, and shows that the macular figure is caused by tension lines centered at the fovea, the greatest stress being just beneath the intima. The last question discussed in this highly scientific paper concerns the phagocytes of the retina, which he shows to be of several different kinds, as follows: (1) Wander cells; (2) Connective tissue corpuscles; (3) epithelioid corpuscles of the nerve fibre layer; (4) epithelioid corpuscles of the outer granular layer—the two latter varieties being in close relation to the supporting fibers of Muller. E. W. S.

## DERMATOLOGY.

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## GRAIN ITCH.

Considerable attention has been recently directed to an unusual form of dermatitis, which investigation has shown to be due to a parasite infesting straw-mattresses.

J. F. Schomberg (*The Journal of Cutaneous Diseases*, Jan., 1910), deals fully with this subject, giving what is now known concerning it, and also some ob-

servations made a number of years ago in other countries along this same line. His conclusions are as follows:

1. An eruptive disorder, new to the physicians of this country, will probably become widespread.

2. It is characterized by an extensive articular eruption, intense itching, and commonly by mild fever.

3. Cutaneous lesion is a wheal capped by a minute vesicle, rapidly becoming pustular.

4. Patients usually have slight leucocytosis and eosinophilia, and some have an albumiuria.

5. The mite does not burrow into the skin as does the acarus of scabies. The skin changes are those of urticaria.

6. Disease is due to contact with cereals or straw infested by *Pediculoides ventricosus*.

7. Straw mattresses are the most common source of infection, but the use of straw for packing or the handling of sacks of grain may also cause it.

8. *Pediculoides ventricosus* has always been found associated with and parasitic upon grain-destroying insects, and tends to protect crops by destroying the larvae of the wheat-straw worm, the joint worm and the grain moth.

9. Wherever the disease occurs it will usually be found that grain-destroying insects abound.

10. A similar affection from handling sacks of grain was noted many years ago by naturalists in France, Germany and Russia.

11. Grain-itch is readily cured by avoiding the source of infection.

A. J. M.

According to the statement of a Greek pastor of Lowell, Mass., sixty per cent of the large Greek population living in that city are afflicted with tuberculosis.

## NEUROLOGY.

Edited by  
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### THE WASSERMAN REACTION IN TABES DORSALIS, AND THE QUANTITATIVE ESTIMATION OF THE WASSERMAN REACTION IN SYPHILITIC DISEASES OF THE NERVOUS SYSTEM.

At the 1909 meeting of the A. M. A. at Atlantic City, Nonne expressed the opinion that, in the examination of the cerebro-spinal fluid in tabes, the Wasserman reaction was negative, while examination of the blood serum of the same case gave a positive result; and that this is typical of tabes. (17, VI, 1909.)

Somewhat later in the same year at the "Gesellschaft Deutscher Nervenärzte" in Vienna he made the same statement and drew his conclusions from the investigation of 104 cases of tabes. It was while investigating this new material that he discovered that a weak reaction was found in some cases. Holtzman and Nonne had already come to the conclusion that although the bodies producing this reaction were present in the cerebro-spinal fluid in tabes, they were so few in number that they could not be demonstrated by the original Wasserman method.

This very frequent absence of the Wasserman reaction in the spinal fluid of tabetics stands in sharp contrast to the universally accepted belief that nearly 100% of fluids taken from the spinal canal of paretics give the typical Wasserman reaction. Nonne believes that this fact is of the greatest value as a differential diagnostic sign between these two diseases but lays special emphasis upon his belief that the negative reaction in cases of lues spinalis and cerebro-spinalis cannot be used as a differential point between them and tabes as in the three diseases the four reactions (lymphocytosis, phase I, Was-

serman reaction in blood and in the spinal fluid) are equally absent.

Prior to Jan., 1908, Nonne had been led by his observations to conclude that the Wasserman reaction from the spinal fluid, while not so frequent as in paresis, was not merely exceptional. Later results forced him to revise his list of cases of tabes which had shown a positive Wasserman reaction from the spinal fluid, because only one case remained in the entire list which presented no symptoms of paresis when examined with care, and there was no classic case of tabes which showed the Wasserman reaction from the spinal fluid.

When the literature of the subject is reviewed with special reference to this point it is noticed that there are scattered cases reported in which there was a positive reaction in tabes; but in many it is not stated whether the serum or the spinal fluid was used; more often the serum alone was used. Still other authors do not distinguish between tabes and tabo-paresis. But the authors do agree that the positive Wasserman reaction from the serum of tabetics is not so constant as in paresis.

The positive reaction found in tabes by the different authors varies from 55 to 95%, when the serum is used in the examination, so that the average number of cases in which the serum has been used, about 70% show complement binding bodies.

In sharp contrast to this is the smaller number of cases in tabes showing a positive reaction when the spinal fluid was used, the numbers reported by different authors varying from 22 to 80%. (Contrast this with 90 to 100% of positive reactions in paresis when the spinal fluid is used.) There is still considerable difference of opinion of the different investigators as to the complement binding material in the spinal fluid of tabetics, and the results of their experiments differ ma-

terially from the results obtained by Holtzman and Nonne in their most recent analysis.

Their results drawn from 103 cases of tabes in which the most careful examination had been made to exclude every possible mistake in diagnosis showed that the cases could be divided into six different groups as follows: incipient, slowly progressive with beginning ataxia, arrested cases without ataxia, normally progressing cases, unusually rapidly progressing cases and lastly very old high grade cases. The number of cases falling in these divisions are 14, 15, 15, 41, 7 and 1, respectively. The possibilities with regard to the combinations of results to be obtained are (1) positive reaction in both blood serum and spinal fluid, (2) negative reactions in both fluids, (3) positive only in blood serum and (4) positive only in spinal fluid. The results of their experiments are briefly classified as follows:

#### GROUP 1.

Phase I (increase of globulin) . . . . .	Positive in 13 cases =	93%
Lymphocytosis . . . . .	Positive in 12 cases =	86%
W. R.		
Blood . . . . .	Positive in 10 cases =	70%
Spinal fluid . . . . .	Positive in 1 case =	8%

#### GROUP 2.

Phase I . . . . .	Positive in 11 cases =	79%
Lymphocytosis . . . . .	Positive in 13 cases =	87%
W. R.		
Blood . . . . .	Positive in 7 cases =	47%
Spinal fluid . . . . .	Positive in 0 cases =	0%

#### GROUP 3.

Phase I . . . . .	Positive in 13 cases =	93%
Lymphocytosis . . . . .	Positive in 12 cases =	86%
W. R.		
Blood . . . . .	Positive in 47 cases =	47%
Spinal fluid . . . . .	Positive in 2 cases =	13%

#### GROUP 4.

Phase I . . . . .	Positive in 39 cases =	98%
Lymphocytosis . . . . .	Positive in 38 cases =	95%
W. R.		
Blood . . . . .	Positive in 31 cases =	76%
Spinal fluid . . . . .	Positive in 4 cases =	10%

**GROUP 5.**

Phase I.....	Positive in 7 cases = 100%
Lymphocytosis ....	Positive in 7 cases = 100%
W. R.	
Blood .....	Positive in 6 cases = 86%
Spinal fluid .....	Positive in 1 case = 14%

The 6th group of one case can be neglected, but it showed a positive first phase and reaction in blood serum, and a negative lymphocytosis and reaction in spinal fluid.

The total results show as follows:

Phase I (increase of globu- lin) ....	Positive in 84 cases (out of 90) = 93%
Lympho- cytosis..	Positive in 82 cases (out of 91) = 90%
Wasserman reaction in blood serum..	Positive in 62 cases (out of 93) = 67%
Wasserman reaction in spinal fluid ..	Positive in 8 cases (out of 93) = 9%

It is an interesting fact that viewed clinically without any reference to the absence of the four reactions the cases fall into the same groups:

Phase I (increase of globulins) and the lymphocytosis parallel each other and are constant. On the contrary the negative Wasserman has considerable variation in per cent as in the following table:

Group 1, incipient cases, in 70% positive.

Group 2, slowly progressing with beginning ataxia, in 47% positive.

Group 3, arrested case without ataxia, in 47% positive.

Group 4, normally progressing cases, in 76% positive.

Group 5, unusually rapidly progressing cases, in 86% positive.

From this it appears to follow that the difference in the results of various authors can be explained by the difference in the clinical course of the cases examined by them. The average per cent of the serum positive reactions in Holtzman and Nonne's (67%) agrees well with the per cent found in the literature, especially when one considers that they eliminated all cases in which there was a suspicion of paresis, and it is all the more surprising that they should have disagreed in the examination of the spinal fluid for complement binding bodies. A positive Wasserman reaction was seldom found in the spinal fluid of tabetics, only 8 of 92 cases. In all these eight cases the serum was at some time either equally or more strongly positive than the spinal fluid. Two of the eight cases were not altogether free from a suspicion of paresis and the spinal fluid of two cases gave a positive reaction if the extract was used in double strength. It should be especially noted that in no case was there found the combination of a negative reaction in the blood serum and a positive reaction from the spinal fluid.

Zeissler, working in Much's laboratory has developed a method by which the antibodies can be measured quantitatively. The method is based on the exact measurement of the amount of complement that the serum or spinal fluid under certain conditions is able to bind. He titrated out of the serum of the guinea pig the complement contained in it before the reaction was made. Since up to this time the complement of human serum had not been completely inactivated, Zeissler heated the serum at 58° for two hours, and used a control to be certain that the serum no longer contained any remains of com-

plementary substance which might interfere with the reaction. Several test tubes were then filled with decreasing quantities of the human serum and of the extract, to which increasing amounts of the complement are added. The necessary controls are used in order to avoid error. Zeissler in this way obtains five degrees of strength of reaction. This method has the great advantage of doing away with the "partial retardation" which has been the source of so many errors and mistakes.

This method was developed after Nonne had done the greater part of his work, but the interesting fact was developed that in the remainder of the cases in which it was used, the results supported their conclusions deduced from the other method.

According to Zeissler a great number of bodies indicates paresis or hereditary lues with involvement of the nervous system. Next in degree comes lues cerebro-spinalis and lastly tabes, in which disease the serum only occasionally gives a strong positive reaction; 50% of the cases of tabes have a serum which contains only enough of the anti-bodies to bind an equal amount of complement.

These sera lie on the border line of sera characterized as positive. Such scanty numbers of anti-bodies were found in only two out of thirty-two cases of paresis, while 50% showed the strongest degree of positive reaction. Similar but still more sharply defined results are obtained when the quantitatively measured by the Zeissler method.

While a part of the cases of paresis showed great quantities of the anti-bodies in the cerebro-spinal fluid, and while only one out of twenty-three cases of tabes showed no complement bound bodies; in fifteen of the tabes in which the spinal fluid was examined only two showed slight and one showed the extreme degree of reaction. The other thirteen showed no

trace of anti-bodies, although twice the amount of spinal fluid was used.

In three cases of cerebro-spinal lues the quantitative examination was made to determine whether the anti-bodies were few in number or absolutely absent. In two cases they were absolutely absent. In one case there was basilar meningitis with hemorrhage into the pons confirmed by post mortem. In another woman, who had been infected twelve years previously by her husband and had shown symptoms of specific meningitis of the base, neither the serum or spinal fluid showed the presence of anti-bodies. In the third case autopsy showed meningo-encephalitis gummosa; microscopical examination showed the absence of paresis and still examination of the spinal fluid gave such a weak reaction that it would not have been shown by the original Wasserman.

Zeissler's examination of many cases shows that the number of anti-bodies in paresis is very great, thirteen times as many as in the average case of tabes. It is a well known fact that the same proportion exists between lues cerebro-spinalis and paresis.

*Summary:* The Wasserman reaction is absent in the spinal fluid in all the different forms and stages of tabes if it is uncomplicated with paresis. If one uses the original Wasserman reaction and all the controls mentioned, the positive reaction points to the complication—paresis. They conclude from their investigations that in all its forms and in all its stages that the Wasserman reaction is absent in the spinal fluid and that this fact offers a differential diagnostic sign, both in cases of incipient paresis with tabetic symptoms and in cases of systemic tabes with paretic symptoms.

E. W. L.

(For the bibliography see *Monats. für Neurol. und Psych.*, Feb., 1910.)

The death rate per 10,000 from tuberculosis in Victoria, Australia, has fallen from 14.58 in 1890 to 9.58 in 1907, and in Melbourne and suburbs from 20 in 1890 to 11.6 in 1907. The fall is attributed to the aggressive campaign against this disease, including the registration of tuberculosis cases, the erection of institutions for treatment and the general improvement of sanitary and working conditions.

The Newfoundland Society for the Prevention of Tuberculosis is carrying on a vigorous and necessary campaign this year in the island. The death rate from the disease in Newfoundland is very large. About one in every five of the total population dies of it, and, what is worse, in the last six years the death rate, which is stationary or decreasing everywhere, has increased about 50 per cent. This is due largely to the native horror of fresh air in the house.

Iceland has a Society for the Prevention of Tuberculosis and is building a \$75,000 sanatorium to accommodate 50 or 60 patients.

## Constituent Societies

### DENVER COUNTY.

The regular meeting of the Denver County Medical Society was called to order in the Academy of Medicine building at 8:15 p. m. March 1, 1910, Dr. C. B. Van Zant presiding.

Drs. Ditson, Morse, and Hayes were elected to membership.

The report of the committee on better accommodations for the library was then read by Dr. Bane, in which report the committee recommended that the society accept the offer of Messrs. Gano-Downs to furnish a free space for the library in the Metropolitan building.

These recommendations, on motion, were accepted. Dr. Grant then moved that the matter be referred to the Board of Trustees with power to act. Carried. The committee was then thanked and discharged.

Dr. W. W. Grant read a paper entitled "Some Cancer Problems."\* Dr. Tennant spoke urging the more thorough treatment of gastric ulcers. Dr. Gibson spoke of the necessity of early diagnosis and the usefulness of treatment by the X-ray following surgical interference. The society then adjourned. Present 60.

The regular meeting of the Denver County Society was called to order March 15, 1910, in the Academy of Medicine building.

Drs. Charles A. Ferris and F. H. Curtiss were elected to membership.

The Board of Trustees reported that they had made arrangements with Messrs. Gano-Downs for the reservation of a lecture room 42x36 ft. and a library 42x25 ft. in the Metropolitan building at a yearly rental of \$1, as per contract. The report was accepted and placed on file.

Dr. B. H. Matthews reported six cases of acute urethritis due to the pneumococcus.

\*Dr. Grant's paper appears in full in another part of this issue. (See page 146.)

Under the discussion Dr. E. W. Stevens stated that about 12 per cent of cases of ophthalmia neonatorum are due to the pneumococcus, and that not more than 60 per cent are due to the gonococcus; he also spoke of the serum diagnosis, stating that a drop of bile from the rabbit dropped in the eye is very painful. Dr. Matthews closed by stating that the serum diagnosis used to differentiate the two organisms is not very certain. Dr. J. N. Hall gave a report and exhibition of cases of hook worm disease shown by Drs. C. B. James and himself, and Dr. F. E. Waxham reported a case of Bezold mastoiditis and exhibited a patient. Dr. Bane mentioned some cases of Bezold mastoiditis which he had had in the County hospital.

The society then adjourned. Present 75.

E. W. LAZELLE,  
Secretary.

### EL PASO COUNTY.

The regular meeting of the El Paso County Medical Society was held at the Antlers Hotel on the evening of March 7th. The attendance was good. We had three visitors.

After the regular business of the society had been concluded, the president brought up the matter of fraudulent medical advertisements which appear in our local papers. At his request the secretary read an article from the American Medical Journal under date of February 19, 1910, on "The Power of Public Opinion."

This deals with the subject of quack advertisement in a very broad way and brings the matter home to members of the medical profession as to how much protection we should give the people. Upon motion of Dr. Hanford, seconded by Dr. Boyd, the Executive Committee of the society was appointed to confer with the owners and publishers of our local papers and report as to what can be done to suppress these misleading articles.

Dr. Stough presented several specimens which had been removed at operation, among them being a uterine fibroid which had undergone carcinomateous change, also cancer of the body of the uterus and still another one of a large fibroid which had presented some unusual and difficult technical problems.

Dr. L. G. Brown then showed a series of X-ray plates. The first set, showing the diagnosis of oesophageal stricture. The case was one which had been referred to him by Dr. McClanahan, who gave the history, the technique of the operation and the post mortem findings of the case, showing that the diagnosis made by Dr. Brown had been absolutely correct. Unfortunately, in this case, following a successful operation for the condition, the boy developed pneumonia and died some weeks following. This case was discussed by Drs. Stough, Hanford and Webb, all of them going into the cause of the stricture, and all tending to the opinion that it had resulted from the necrosis of an infected lymph gland.

The next series he showed was the diagnosis of an early tuberculosis of the spine. This was a case of Drs. Hoagland and McConnell, and showed very conclusively early degeneration of the fourth lumbar vertebrae.

Dr. Brown then gave an exhibition of plates showing the progress of bismuth through the intestines, and followed this by a series which was very instructive, showing the probable fallacy of the belief that the colon tube is ever passed beyond the rectal pouch. He showed pictures in which the tube had been passed for the length of from twelve to eighteen inches under the most favorable circumstances and by the most experienced nurses and, in not a single instance, had the tube passed into the colon, but had coiled and bent upon itself within the rectal pouch.

Dr. W. W. Williams then read a paper\* on "Serum Diagnosis of Syphilis" and demonstrated methods. This paper was discussed by Dr. Watt.

Adjourned.

L. K. McKINNIE,  
Secretary.

#### LAKE COUNTY.

The Lake County Medical Association met in Leadville at the office of Dr. E. T. Boyd on the evening of March 31st.

The meeting was called to order by the president, Dr. H. A. Calkins.

Election of officers was held with the following result: President, Dr. A. M. Maclean; vice-president, Dr. H. A. Calkins; secretary-treasurer, Dr. M. Kahn.

Those present: Drs. Calkins, Griffith, Whitmore, Maclean, Kahn and Boyd.

Meeting adjourned.

E. T. BOYD  
Secretary.

#### LAS ANIMAS COUNTY.

A regular meeting of the Las Animas County Medical Society was held on Friday night, March 4, with a large attendance. Dr. Ben Beshoar presiding. Present were Drs. Drisdale, Hally, Dunkle, Beshoar, Robinson, Fox, Thompson, Crawford, Abrahams, Espey, Jaffa.

The papers of the evening were "Prevention and Cure in Medicine," by Dr. Drisdale, and "The Use and Abuse of Laxatives," by Dr. John R. Espey. Both papers were fully discussed by the members present.

Drs. Wm. Hally and F. S. Stanley were elected to membership.

After transacting the routine business of the society, we adjourned.

PERRY JAFFA,  
Secretary.

#### WELD COUNTY.

February meeting of Weld County Medical Society was held in the City Hall on the 7th. Fourteen members and one visitor present. O. F. Broman, president.

Dr. Pogue reported two cases of bronchitis, one twenty years' standing, treated successfully with autogenous vaccine. Dr. Shields reported case of suspicious sore throat, septic pains throughout the body continuing after

disappearance of tonsillar patch; diagnosed aphthous sore throat. Discussed by Miller, Reed, Ringle, Mead and Hughes.

Dr. Reed read the paper of the evening on Pellagra. Paper was abstracted from the pages of twelve or fourteen medical journals coming to the desk of the writer and from government reports. The essayist reviewed the history of the disease from its first discovery, discussed causes, noting that the charge against corn had not been proved. Symptoms and treatments also were reviewed, transfusion being cited as the most successful method thus far found. Dr. Pogue discussed the paper, stating that it was a systemic and not a skin disease, with etiology unknown.

Dr. C. B. Dyde read a short paper on Intestinal Perforation in Typhoid. He stated that the disease the past year had been of a severer type than usual. He reported a few cases of recovery following operation for perforation. Paper discussed by Dr. Hughes.

Dr. W. E. Thompson reported that the cases of typhoid in the county hospital had been fewer in number but of severer character. Dr. Mead, city physician, stated that the number of typhoid cases in Greeley was twenty less than the previous year.

Our visitor, Dr. Guthrie, reported his experience with typhoid at Platteville.

Dr. Shields reported his interview with the members of the Ministerial Alliance concerning the movement projected by the society towards a campaign of public instruction in sex function and venereal disease. The ministers indorsed the plan and promised their hearty co-operation.

The name of Dr. Guthrie of Platteville was favorably voted upon and his name added to the roll of membership. Adjourned.

Members present: Broman, Reed, Church, Weaver, Pogue, Hughes, Thompson, Miller, Ringle, Mead, Dyde, Shields, Dungan, Harmer.

The March meeting of Weld County Medical Society was held on the 7th in the office of Dr. Graham. O. F. Broman, president.

Dr. Mead reported a case of smallpox in which there was no reaction from a previous vaccination. A second vaccination was given, and a variolate rash appeared simultaneously with the vaccine reaction. Pustules were chiefly upon the vaccinated side.

Dr. Weaver reported a case of labor complicated with a tumor in right side. Following birth of child, there was a free flow of pus, with the disappearance of the tumor. The labor was attended with convulsions and immediately following it the temperature rose to one hundred and six. Patient recovered.

A severe case of chronic nephritis was reported by Dr. Church. In a family of several children with measles, one case resembled typhoid, but was diagnosed a case of suppressed eruption. Reported by Dr. Dungan.

Dr. Dyde gave the final installment of his continued report of a case of haematuria following confinement. The case had fallen into the

\*Dr. Williams' paper appears in full in another part of this issue. (See page 128.)

hands of the Christian Scientists and was well(?)

Dr. Ringle read the paper of the evening on "The Naso-Pharyngeal Lymphatic System." The doctor gave a brief review of the anatomy and physiology of the naso-pharynx and referred to pathological conditions often found there. He noted the difficulty in diagnosing the true character and cause of the inflammation of the parts. Particular reference was made to the tonsil. The wide difference among careful observers as to the value and function of the tonsil was discussed, the consensus of opinion being that it is capable of resisting the invasion of pathogenic organisms when in a healthy condition; while on the other hand, if diseased, it presented an open channel for the invasion of pathogenic organisms, including tubercle bacilli. He noted also the relation between the diseased tonsil and rheumatism. The observation of the writer led him to believe that the naso-pharyngeal lymphatic system is impressed into service by the general organism to perform the part of vicarious elimination. He referred to his examination of a hundred school children taken from the various rooms without regard to symptoms or physical conditions. But three normal or healthy throats were found. He attributed the large percentage of unhealthy throats to three principal causes: Bad hygiene in the home, bad hygiene in the school room and indifference to the treatments of attacks of sore throat.

Every member present took part in the discussion of the paper. After discussing some unfinished and miscellaneous business, society adjourned. Thirteen members present and Dr. Burnard visitor.

J. K. MILLER,  
Secretary.

## Other Societies

### COLORADO OPHTHALMOLOGICAL SOCIETY

The March meeting occurred at the offices of Dr. Edward Jackson, who presided.

Drs. H. R. Stilwill and E. O. Sisson presented a woman of 27, who had lost the sight of the right eye and suffered impairment of the vision of the left eye from scleritis, presumably of rheumatic origin. Transillumination of the right eye gave a remarkable demonstration of the ciliary body and its processes, distinctly seen through the thinned sclera.

Dr. Jackson showed a man, aged 41, illustrating cataract treated by dissection. Three successful dissections of the capsule had been done. After a dissection of the nucleus, increased tension and pain made it necessary to evacuate most of the remaining lens matter.

Dr. W. C. Bane presented a young woman with localized conjunctival hyperemia, confined to the lower cul de sac of each eye, and of three

months' duration in one eye, and three weeks' standing in the other. The condition was thought to be due to sinus involvement.

Dr. Bane also showed a woman of 48, with central guttate choroiditis, evidenced by whitish deposits about each macula.

Dr. Bane exhibited a drawing of a persistent hyaloid artery, observed by him in 1897; and a water color illustration he had made of the case of annular pigmentation of the optic disc, shown before the society by Dr. Neepier at the January, 1910, meeting.

Dr. Jackson reported obstruction of a retinal artery, with permanent loss of the upper portion of the field of vision.

Dr. F. W. Stevens reported the location by X-ray photography, and the removal of steel in the vitreous by use of a magnet.

Dr. Stevens also reported a case of severe orbital cellulitis, with paralysis of the ocular muscles and exophthalmos, following influenza. Recovery followed drainage of the orbit, ethmoid and sphenoid of the worse affected side.

Dr. Bane reported an orbital infiltration mass in a youth who had worn the same artificial eye for twelve years. The growth was removed, and proved to be chronic non-malignant inflammatory tissue. It had the appearance of malignancy.

Dr. J. A. Patterson read a paper on "Ring abscess of the Cornea," illustrated by a case which had followed pneumonia in an adult, and was coincident with herpes febrilis of the upper lip and lower eye lid.

The cases and the paper were discussed by Drs. Jackson, Stevens, Bane, Patterson, Ringle, Robinson, Boyd and Sisson.

GEORGE F. LIBBY,  
Secretary.

## Items

Dr. R. J. Mapes of Tonopah, Nevada, was in Denver for a few days. Becoming interested in other matters, he wishes to dispose of his residence and office equipment to some one who desires a good general practice in a live mining camp. He will appreciate correspondence from our readers.

The Routt County physicians have organized a medical society and have applied to the State Society for a charter. They intend to send a good strong delegation to the coming meeting of the State Society at Colorado Springs to lobby for the 1911 meeting at Steamboat Springs. The charter members are as follows: J. H. Cole, Yampa, president; H. C. Dodge, Steamboat Springs, secretary; R. E. Jones, Steamboat Springs; L. G. Blackmer, Steamboat Springs; W. C. Schulte, Yampa; H. S. Finney, Hayden; J. E. Downs, Craig; E. C. Burton, Craig; J. V. Solandt, Hayden; William Kennaghan, Steamboat Springs; F. C. McIsaacs, McCoy; B. A. Arbogast, Juniper.



Dr. and Mrs. Henry S. Denison have left Denver for five months' study in Berlin.

Dr. A. L. Stubbs and Dr. Frank Finney made a business trip recently to El Paso, Texas.

Race suicide has struck La Junta.

Dr. George E. Van der Schow of Fowler is taking post graduate work in Chicago.

Dr. W. O. Shelbe and family have moved to Wiley.

Dr. and Mrs. J. B. Finucane have gone to Rochester, N. Y. They will motor back to Denver.

Dr. J. P. Willard, Denver, has moved to 1629 Franklin street for about three months.

Dr. and Mrs. W. H. Davis have returned after a very pleasant nine weeks' trip to Havana, and up and down the east coast of Florida.

Dr. and Mrs. G. H. Stover have returned from Honolulu.

Dr. and Mrs. J. E. Kinney have left Denver for an extended European trip.

Mrs. May Cook is now in charge of the La Junta City Hospital as matron. The hospital has had a very successful month, an average of eleven paying patients making it more than self-supporting.

Dr. Margaret A. Fleming, formerly practicing near Albuquerque, N. M., has located in Florence.

Dr. G. D. Cummings of Florence has been elected Grand Master of the Order of Odd Fellows of Colorado for the ensuing year.

Dr. R. E. Holmes of Canon City has been appointed a member of the Board of Pension Examiners, vice Dr. T. B. Moore, resigned.

A son was born to Dr. and Mrs. Little of Canon City on the 4th of March.

Several of the Florence doctors have invested in incubators and are raising fancy chickens. They find it not only an interesting diversion, but profitable. There are numerous compensations for living in the country.

Dr. Frank Finney, La Junta, left March 24th for Oberlin, Ohio, to be absent ten days, to attend the graduating recital of his daughter.

Dr. F. P. Pratz, formerly of Decatur, Illinois, a graduate of P. & S., Chicago, has purchased the practice of Dr. O. W. Swope of Holly. Dr. Swope will do postgraduate work in the East, before deciding upon a location.

Dr. C. W. Russell has bought out Dr. W. A. Packard of Lamar. The latter goes to Fort Morgan, having purchased the practice of Dr. Elliot.

Dr. A. L. Stubbs, La Junta, Eminent Commander Palestine Commandery, La Junta, attended the annual meeting of the K. T. Commanders of the state, recently held in Denver.

The first public health meeting of the Otero County Medical Society was held at La Junta March 25th. The hall was filled and the audience enthusiastically applauded Drs. Corwin and Peairs of Pueblo, who respectively spoke on "The Prevention of Typhoid Fever" and "The Prevention of Tuberculosis." The same speakers will address a public meeting at Rocky Ford some time in April, under the auspices of the local society.

The Western Section of the American Laryngological, Rhinological and Otological Society, of which Dr. A. R. Solenberger is chairman, met in the Antlers Hotel on Saturday, March 5th.

The meeting was most successful and interesting. Among the visitors from out of town were Drs. Levy, Cooper, Gallagher, Collins, Bane, Conant, Neuman and Carmody of Denver, Pattee of Pueblo, Orendorf of Canon City, Spencer of Boulder.

The chairman tendered the members and visitors an elaborate dinner in the evening, at which there were thirty guests.

The medical profession of the Pike's Peak region was delightfully entertained at luncheon at the Printers' Home on the 15th of February, tendered by the trustees of that institution. Preceding the luncheon a tour of inspection was conducted through the institution, including tent colony, main building, infirmary, laundry, kitchens and last but not least, the new library addition. Perhaps the most striking thing noticed was the immaculateness of every nook and cranny.

Mr. Jas. M. Lynch, president of the Board of Trustees, presided as toastmaster and responses were made by Drs. Christopher and Robinson of the medical staff and Dr. Baker of the dental staff. Fink's orchestra furnished music and songs by Mr. Lou Fink, "M. D.," and Proctor Deacon were rendered.

There are 160 residents in the Home, 50 of whom are tubercular. It is supported by a contribution of 15 cents per month from each of the 50,000 members of the International Typographical Union and the plant represents an investment of \$1,000,000.

Dr. D. I. Christopher is the surgeon and Dr. John R. Robinson is the laryngologist and oculist of the Home.

Dr. Val B. Fischer, who graduated from the University of Colorado last June, and since that time has been practising eye, ear, nose and throat, with Dr. F. R. Spencer, of Boulder, has now gone to Ann Arbor to accept first assistantship with Prof. R. B. Canfield, of the University of Michigan.

Dr. A. R. Peebles, of Boulder, has moved his offices from the Physician's Block to larger quarters in the new Sullivan Block.

Ear, nose and throat specialists from several points in Colorado and Wyoming held a meeting at Colorado Springs, March 5th, and discussed problems of the profession. On the program from Denver were Drs. William C. Bane, E. F. Conant, Robert Levy, D. S. Nueman, Thomas G. Gallagher, Thomas E. Carmody and David A. Strickler.

Dr. E. T. Boyd of Leadville, Dr. F. R. Spencer of Boulder, Dr. J. J. Pattee of Pueblo and Dr. George Strader of Cheyenne were prominent in the gathering.

Local men who read papers were Drs. J. R. Robinson, James A. Patterson, Gerald B. Webb, F. S. McKay, P. F. Glidea and A. R. Solenberger. A banquet was held at the Antlers Hotel.

Dr. E. J. A. Rogers broke his wrist recently while cranking his new automobile.

Dr. F. B. Rothrock and Miss Nancy Ewing, both of Colorado Springs, were married on the 23rd of February. After a honeymoon in California they returned on the 30th of March.

Dr. A. C. Magruder and family of Colorado Springs are in California for a two months' visit. They are expected back this month.

Dr. D. P. Mayhew and family returned to Colorado Springs on the 2nd of April, after a six months' visit to Europe. While away the doctor visited the various English and continental clinics.

Dr. Will Howard Swan leaves in a few weeks for a trip to England.

Dr. S. Fosdick Jones and Dr. C. A. Powers of Denver leave shortly for an extended European trip.

Dr. and Mrs. J. M. Foster are at the Hotel Woodstock in New York.

Dr. Louis Howe of Cody, Wyo., was in the city last week as the guest of his sister, Mrs. Franklin R. Carpenter.

Dr. W. S. Chapman of Rouse is about again, having suffered from a broken leg.

Dr. R. L. Thorp has returned from an extended trip in the East.

While backing his automobile along a narrow roadway when he found he could not cross a new railroad grade, Dr. W. B. Purcell, formerly of Denver, ran over a forty-foot embankment and was pinned beneath his car and instantly killed. The accident occurred about twenty miles from Tucson, Ariz. Dr. Purcell was a graduate of Gross Medical College in the class of 1899.

## NOTICE.

A reputable doctor in New York wishes to secure for a gentleman of means (at the same time protecting him from falling into the hands of impostors) any knowledge of a cure of progressive muscular atrophy, which may have been observed by members of the profession, who, through inability to corroborate results, rarity of cases, modesty or fear of being discredited, have failed to publish their cases. The motive in this seems to be an earnest desire on the part of the doctor to give his patient every chance of cure, at the same time protecting him. Replies and requests for further particulars should be addressed to "Enquirer," care of this journal.

Societies for the promotion of public health measures and particularly for the erection of tuberculosis sanatoria have been formed in Bosnia and Herzegovina.

**Extract of Corpus Luteum in Disturbances of Artificial and Physiologic Menopause.**—Morley, in the November number of the Journal of the Michigan State Medical Society, reports his results in eighteen cases. The author used an extract made from the corpora lutea of beef ovaries rather than an extract of the entire ovary as the consensus of opinion seems to be that the internal secretion of the ovary is produced by the yellow body. The extract is given in five grain doses, three times a day, one-half to one hour before meals. His results in eighteen cases may be summed up as follows:

Five were cured, twelve were improved and one obtained no relief. Included in the twelve cases that were improved are grouped those that are still taking the extract. A permanent cure may result in a few of the cases under treatment. Of the eighteen cases, fourteen suffered from disturbances of operative or artificial and four from those of natural or physiologic menopause. While the results obtained in so small a group of cases do not warrant the drawing of any definite conclusions, still the author thinks that the results are favorable enough to justify a continuance of the treatment in other cases, where there is a disturbance incident to artificial or physiologic menopause.

## THE WANE OF WRANGLING.

With reference to the popular idea concerning wrangling among doctors, the following quotation from the Philadelphia North American, concerning the last Atlantic City session of the American Medical Association, will be of interest:

"We have studied every debate, every address, every resolution presented during the Atlantic City meeting. We have failed to detect a single proposal or utterance intended to further the selfish interest of an individual or a clique or any institution or group of institutions, or to exalt a narrow doctrine or any

theory not universally accepted by scientists. We have been unable to pick out even one suggestion demanding consideration which did not have its inspiration in a broad, beneficent spirit of uplift not for a class or a community alone, but for the whole race."

This is hopeful. Every physician of this state should endeavor to live up to such a standard to the effect that the proverbial wrangling of doctors will become a thing of the past.

## Books Received

**International Clinics.** Volume I. Twentieth Series, 1910. Philadelphia and London: J. B. Lippincott Company, 1910.

**The Sexual Life of Women in its Physiological, Pathological and Hygienic Aspects.** By E. Heinrich Kisch, M. D. New York: Rebman Company, 1123 Broadway. Pp. 667. Cloth. Price \$5.00 net.

**New and Non-Official Remedies, 1910.** Containing descriptions of the articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1, 1910. Chicago: Press of American Medical Association, 535 Dearborn Avenue. 1910. Pp. 256.

**The Propaganda for Reform in Proprietary Medicines.** Sixth edition, containing the various exposes of nostrums and quackery which have appeared in *The Journal of the American Medical Association*. Price, paper, 10 cents; cloth, 24 cents. Pp. 292. Illustrated.

## Pamphlets and Reprints

**The Rat and its Relation to the Public Health.** By various authors. Prepared by direction of the Surgeon-General. Treasury Department. Public Health and Marine-Hospital Service. Pp. 254. Washington: Government Printing Office. 1910.

**Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States for the fiscal year 1909.** Washington: Government Printing Office. 1910. Pp. 274.

**Proceedings of the Third Annual Meeting of the Association of Life Insurance Presidents.** Held in the New Willard Hotel, Washington, D. C., January 19 and 20, 1910. Pp. 127.

**Saunders' Books.** A descriptive catalogue of

**Medical and Surgical Works.** Illustrated. Thirteenth Edition, revised to February, 1910. W. B. Saunders Company, 925 Walnut street, Philadelphia. Pp. 80.

**Röntgen Ray Flashes or Intermittent X' Rays in the Treatment of Eye Diseases with Report of Cases.** By David H. Coover, M. D. Pp. 7.

**The Oxidases and Other Oxygen-Catalysts Concerned in Biological Oxidations** by J. H. Kastle. Treasury Department. Public Health and Marine-Hospital Service. Pp. 164. Washington: Government Printing Office, 1910.

**Publications of the United States Public Health and Marine-Hospital Service.** January, 1910. Washington: Government Printing Office, 1910. Pp. 25.

**Suggestions of the Pupil in General Disease.** By Edward Jackson, M. D., Professor of Ophthalmology in the University of Colorado, Denver. Extracted from the *American Journal of the Medical Sciences*, October, 1908. Pp. 4.

**The Organized Medical Profession and Some of its Enemies.** By Edward Jackson, M. D., Denver. American Medical Association Press, 103 Dearborn Ave., Chicago. Pp. 8.

**Importance of Ocular Lesions in General Pathology and Diagnosis.** Address before the St. Louis Medical Society, December 7, 1907. By Edward Jackson, M. D., Denver. American Medical Association, 103 Dearborn Ave., Chicago. 1908. Pp. 19.

**Vaccination and its Relation to Animal Experimentation.** By Jay Frank Schamberg, M. D., Philadelphia. *Defense of Research Pamphlet I.* Chicago, 535 Dearborn Ave. Pp. 50.

**Animal Experimentation and Tuberculosis.** By E. L. Trudeau, M. D., Saranac Lake, N. Y. *Defense of Research Pamphlet II.* Chicago, 535 Dearborn Ave. 1909. Pp. 15.

**The Role of Animal Experimentation in the Diagnosis of Disease.** By M. J. Rosenau, M. D., Director Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service, Washington, D. C. *Defense of Research Pamphlet III.* Chicago, 535 Dearborn Ave. 1909. Pp. 6.

**Animal Experimentation and Cancer.** By James Ewing, M. D., New York. *Defense of Research Pamphlet IV.* Chicago, 535 Dearborn Ave. 1909. Pp. 12.

**The Uselessness, Damage and Dangers of Corrosive Sublimate as an Antiseptic.** By John R. Hopkins, M. D., Denver, Colo.

**Relative Physiological Activity of Some Commercial Solutions of Epinephrin.** By W. H. Schultz, Treasury Department. Public Health and Marine-Hospital Service of the United States. Pp. 30. Washington: Government Printing Office. 1910.

**Some Phases of Pyorrhea and Its Treatment.** By Dr. A. C. Hamm, Denver, Colo.

**A Method of Curing Quickly Beginning Gonorrhea by Sealing Argyrol in the Urethra.** By Edgar G. Ballenger, M. D. Reprinted from the *Therapeutic Gazette*, November 15, 1909. Detroit, Mich.: E. G. Swift, Publisher. 1909. Pp. 7.

**Surgical Treatment of Tuberculous Pleurisy, Lung Abscess and Empyema.** By Emil G. Beck, M. D. Surgeon to the North Chicago Hospital, Chicago. 1909. American Medical Association, 535 Dearborn Ave., Chicago. Pp. 31.

**A Symposium on Thoracic Surgery.** Discussion on Papers of Drs. Powers, Beck, Friedrich, Meyer, and Green and Janeway. American Medical Association, 535 Dearborn Ave., Chicago. Pp. 12.

**Diagnostic Aids in Diseases of the Lung and Pleura.** By Emil G. Beck, M. D. Surgeon to the North Chicago Hospital, Chicago, 1909. Pp. 7.

**Some Practical Points in the Application of the Bismuth Paste in Chronic Suppurative Diseases.** By Emil G. Beck, M. D. Surgeon to the North Chicago Hospital. Reprint from *Surgery, Gynecology and Obstetrics*, August, 1909. Pp. 255-258.

**What the Local Health Officer Can Do in the Prevention of Typhoid Fever.** By L. L. Lumsden, Treasury Department. Public Health and Marine-Hospital Service. Pp. 14. Washington: Government Printing Office. 1910.

## Books Reviewed

**The Prevention and Treatment of Abortion.** By Frederick J. Taussig, A. B., M. D. Fifty-nine illustrations. St. Louis. C. V. Mosby Company. 1910.

Dr. Taussig has treated the subject of abortion in an interesting and complete way. The book is intended for the general practitioner to whose lot the majority of abortions fall. When one realizes as Taussig states that about 50 per cent of pregnancies end in abortion the importance of the subject is apparent. The anatomy of early pregnancy and its pathology are gone into and their relation to the etiology considered. Taussig, in giving the etiology of abortion divides the causes into: conditions of the uterus which predispose to abortion (pre-

disposing causes and conditions which excite the uterus to get rid of its contents (exciting causes). Under each of these are separate headings. The chapters on symptoms and differential diagnosis are enlivened by descriptions of examples occurring in the author's practice.

The prophylaxis—and treatment and operative technique are completely described. The whole subject treated in a masterly way. The illustrations are good and show plainly what they are intended for. It is a book which is as valuable to the specialist as to the general practitioner. C. B. I.

**International Clinics. Volume I. Twentieth Series, 1910.** Philadelphia and London. J. B. Lippincott Company. 1910.

This volume is perhaps better than usual. The serum diagnosis of syphilis is well covered by Swift and Noguchi, while Sachs gives a careful account of diagnostic methods of syphilis of the nervous system. J. J. Watson gives very clearly the symptomatology of pellagra. This is illustrated with temperature charts, and photographs of cases. The treatment is briefly given by James King.

Of particular interest was the account by Emil Beck of the diagnostic value of bismuth paste in chronic suppuration. His plates are a revelation and certainly open up a wide field for help in diagnosis of old sinuses. It shows how often one may be mistaken as to the origin of an old chronic sinus.

Bloodgood calls particular attention to the treatment of sarcoma of bone and makes a plea for the more conservative operative measures. The book is as a whole well gotten up and contains a great deal of useful information.

F. W. B.

**Surgical Diagnosis. Second Edition.** W. B. Saunders & Company. By Daniel N. Esendrath.

The second edition covers more ground than the first edition. Cystoscopy and Ureteral catheterization have been added. The book is remarkably well gotten up and will certainly help to solve many surgical diagnostic problems. It takes up the regions of the body beginning with the head, then including thorax, abdomen, and extremities. One chapter is given to spinal lesion. The book is beautifully illustrated and printed on very excellent paper. It is a pity the author does not pay more attention to clinical tests. In appendicitis and gall stones he makes no notice upon leucocyte counts. In general he does not call enough attention to the laboratory methods. F. W. B.

**Diagnostic Methods Chemical, Bacteriological and Microscopical. A Text-book for Students and Practitioners.** By Ralph W. Webster, M. D., Ph. D. 37 colored plates and 164 other illustrations. Philadelphia. P. Blakinston's Son & Co. 1012 Walnut Street. 1900. Price \$6.50 net. Pp. 641.

Another work on clinical diagnosis—appears in a well written book of 640 pages, which for chemical text is better than any now known to

the reviewer. It is an exhaustive work, and besides treating of the usual suptum, gastric contents, feces, urine, and blood, also has chapters upon the oral nasal and conjunctival secretions, secretions of the genital organs, transudates, exudates and secretion of the mammary glands. It is fully up to date in every particular.

**Medical Diagnosis.** A manual for students and practitioners, by Charles Lynan Greene, M. D. St. Paul. Third edition, revised with 7 colored plates and 248 illustrations. Philadelphia. P. Blakiston's Son & Co. 1012 Walnut Street. 1910.

This third edition of a well known book has the same claims upon the student that the former editions had. It is attractively gotten up in flexible binding with marginal notes on the content of the corresponding paragraphs. The chapters on "Outward Signs of Disease" and the "Analysis of the Certain Common Symptoms" recommend themselves, especially as these subjects are not presented in any other book in a form so attractive to the student. Throughout the book, brevity in some places leads to a dogmatism not entirely justified. On the whole, the book is a valuable one to the student of medical diagnosis but for the general practitioner and internist it is much too brief.

**The Practical Medicine Series.** Comprising ten volumes on the year's progress in medicine and surgery under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VI. General Medicine. Edited by Frank Billings, M. S., M. D. Head of the medical department and dean of the faculty of Rush Medical College, Chicago, and J. H. Salisbury, M. D., Professor of Medicine, Illinois Post-Graduate Medical School. Series 1909. Chicago. The Year Book Publishers, 40 Dearborn Street.

This little volume gives particularly well the progress of general medicine in 1909. The illustrations are not so frequent as one could wish and nearly the whole volume is given to the diseases of abdominal contents. Space and necessary briefness detracts from the value of the text but on the whole it is well worth a place on the shelves of the general practitioner if not of the internist.

**A Text-Book upon the Pathogenic Bacteria for Students of Medicine and Physicians.** By Joseph McFarland, M. D., with 211 illustrations, a number of them in colors. Sixth edition, thoroughly revised. Philadelphia and London. W. B. Saunders Company. 1909.

The sixth edition of this well known work gives the same clear presentation of the subject as the other editions. Such a well known work really needs no recommendation to the student or worker in bacteriology. The illustrations are excellent, the text is clear, not too brief and not too profuse. It should be on the shelves of every one interested in bacteriology.

**The Propaganda for Reform in Proprietary Medicines.** Sixth Edition. Containing the various exposures of nostrums and quackery which have appeared in The Journal of the American Medical Association. Price, paper, 10 cents; cloth, 35 cents. Pp. 292. Illustrated.

This book presents in convenient form most of the exposures that have appeared in The Journal of the American Medical Association showing fraud either in the composition of various proprietary preparations or in the claims made for such preparations. Not all of the products dealt with, however, are such as are—or have been—used by the medical profession. Many preparations of the "patent medicine" type have been subjected to analysis and the results of such examinations appear in this volume. The book will prove of great value to the physician in two ways: 1, It will enlighten him as to the value, or lack of value, of many of the so-called ethical proprietaries on the market; and 2, It will put him in a position to answer intelligently questions that his patients may ask him regarding the virtues (?) of some of the widely advertised "patent medicines" on the market. After reading the reports published in this book physicians will realize the value and efficiency of simple scientific combinations of U. S. P. and N. F. preparations as compared with many of the ready-made, unstable and inefficient proprietary articles.

**Diseases of Women.** By Charles Gardner Child, Jr., M. D. The Medical Epitome Series edited by Victor Cox Pedersen, A. M., M. D. Lea & Febiger, Philadelphia and New York. Pp. 219. Cloth, Octavo. Price, . . .

The Medical Epitome is used principally by the student, who wishes to master his subject in as little time and with the least amount of trouble possible. At best one can gain little of value in a work whose chapters on a subject are but one to one and a half pages of a small book. Some chapters are well written but many errors occur throughout the work, of which the following are a few examples. The inner side of the labia majora the labia minora are said to be lined with mucous membrane continuous with that of the vagina. In giving the blood supply to the uterus only the uterine arteries are mentioned. The author states that the mucous membrane lining the uterus, is cast off with each menstruation to be freshly formed again. The vagina is said to be four to six inches in length. If we accept the figures of Quain and Gray we can give to this organ but two and a half inches for its anterior and three and a half for the posterior length. The lower half of the cervical canal is stated to be lined with stratified epithelium. In the chapter on chorio-epithelioma the condition is spoken of as a deciduoma malignum and it is suggested that it may be an ordinary sarcoma arising from the decidua or products of conception. It is now pretty well known by the work of Marchand in 1895 that the growth arises from the syncytial layer of the trophoblast and is therefore of epiblastic origin and not a sarcoma. A short description of different operations comprises the last portion of the book.

C. B. I.

# COLORADO MEDICINE

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All communications to this publication must be made to it exclusively. It will be more satisfactory to all concerned if contributions are typewritten.

Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions.

Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession will be gratefully acknowledged. The name of the sender should be given.

The journal will be issued on the 15th of each month. All copy must reach the editor not later than the first of the month. Advertisements of proprietary medicines will be accepted provided the preparations advertised have been approved by the council of pharmacy and chemistry of the American Medical Association. Address all communications regarding advertising to

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## Notice

All members of the Colorado State Medical Society are entitled to a copy of this journal each month. Failure to receive the same, and change of address, should be promptly communicated to the editor.

VOL. VIII.

DENVER, MAY, 1910

No 5

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

### ONE MEDICAL SCHOOL.

We join the profession of this state in contemplating with pleasure the fact that the Denver and Gross College of Medicine has recently entered into an agreement with the University of Colorado looking to a merger with its Medical Department, thus affecting a solution of the long discussed problem—one medical school for Colorado. Under the agreement the Denver and Gross College will cease to conduct the work of the first and second year of the course after the close of the present session, sending all its applicants for this work to Boulder, and continue the third and fourth year classes as heretofore, the

final merger to be effected after the November election. The terms of the merger as relate to the faculty appear to be eminently wise and fair, designed to respect the rights and feelings of all, and allay any possible irritation left after the twenty years of contention. All members of the present faculty of the Denver and Gross College will be received by the University on an equality, together with such members of the subsidiary faculty as may be utilized and chosen by a joint committee and confirmed by the Board of Regents. It was proposed that the faculties of both schools should resign and an entirely new faculty be made from the component parts of each, but after careful consideration this was determined to be impracticable, it being deemed wiser that fitness and merit should be put at a premium, and that if experience prove that reductions are desirable they be made

as the result of observation under working conditions, thus avoiding the disappointments sure to ensue among those who might be omitted in the selections. It is to be regretted that the financial condition of the University is not such that it may meet this emergency with the prompt and liberal support to be desired. It is hoped, however, that this embarrassment will be but temporary, and that the coming legislature will so provide for the University that it will be able to give its Medical Department the ample appropriation necessary to put the enlarged school on a modern footing, and establish it as one of the most efficient schools of the country.

The sole reason for the postponement of the merger is the restriction of the constitution of the state which compels the University to confine its teaching to Boulder. An amendment to the constitution will be voted upon at the November election, and as soon as the result is known arrangements will be made for an effective merger. The medical profession should join in exercising their influence in favor of the passage of this amendment, that whatever may be the final decision of the Regents, as to the place in which the third and fourth years of work shall be conducted, all students will be able to enjoy the clinical facilities afforded by the city of Denver.

The profession of the state should congratulate itself that this vexed question is put aside forever, and, recognizing that Colorado is geographically the logical center for the development of a great medical school with all that this implies, unite in a strong and sympathetic movement for its upbuilding that it may shortly be the honor and pride of the state and its people.

## *DEPARTMENT OF PUBLIC HEALTH.*

Response to letters calling attention to Senator Owen's bill for the creation of a Department of Public Health have been received from Mr. Rucker, Mr. Taylor, Mr. Martin, and from Senators Guggenheim and Hughes, in which they have expressed themselves in favor of the bill, and ready to advance it in every way.

### THE SMITH OPERATION FOR THE EXTRACTION OF CATARACT.

The Ophthalmic Record of February, 1910, is devoted to the consideration of this operation. A number of papers are presented by men who are by experience qualified to speak upon the subject. Major Henry Smith of Jullundur City, Punjab, India, who is the father of the operation, presents a paper setting forth the technique of the operation as he performs it. Major Smith is performing about 2,000 cataract operations a year, an unheard of yearly experience until we learned of the work being done by him in India. The ideal cataract operation is undoubtedly that of removal of the lens in its capsule. This was recognized many years ago by Pagenstecher, but the percentage of cases in which vitreous was lost was so large that the operation never became popular. It is evident to all who have seen Major Smith operate that he has developed a refinement of technique as a result of his enormous experience some 20,000 cases, which enables him to remove the lens in its capsule with very infrequent loss of vitreous, and with iritis and infection as rare complications. His percentage of successful operations is very high. The remarkable reports which come to us from those who have visited India and seen Major Smith operate is causing us to inquire, is this operation to replace our present methods of extracting the lens from its capsule? It is generally conceded that

only time and experience can enable us to answer this question. That the extraction of the lens in its capsule is ideal none deny, but many deny that it is an operation which is safe in the hands of the average operator. The average operator doesn't do twenty cataract extractions a year, and in consequence it is highly probable that his best results would follow extraction of the lens from its capsule rather than in its capsule. As a matter of fact, our present method of extracting the lens from its capsule gives a successful result in close to 98 per cent. of our cases. It is very doubtful whether the operation of Smith could be generally performed without a falling off in this percentage of from 10 or 15 per cent. There will soon be a number of men in this country performing the Smith operation as a routine practice, and we can then begin to judge as to whether it is the operation to be recommended and taught to our student ophthalmologists.

## Original Articles

### LUNG SURGERY.

BY FREDERIC W. BANCROFT,  
Denver, Colo.

The operative treatment of pulmonary tuberculosis is still in a very elementary stage, and will undoubtedly develop considerably during the next few years. At present the results are not at all satisfactory.

Operations on the thorax for pulmonary tuberculosis may be divided into:

- (1) Pneumotomies and pneumectomies.
- (2) Artificial shrinkage of the lung.
  - a. Artificial pneumothorax.
  - b. Thoracoplastics.
- (3) Chondrotomy or partial resection of the first rib. Murphy's statistics in pulmonary tuberculosis are:

Pulmonary tuberculosis—47 cases:

Operation	No.	Recovery	Death
Pneumotomy . . . .	34	17	17
Puncture . . . . .	2	1	1
Incision . . . . .	4	4	..
Pneumectomy . . . .	2	2	..
Thoracoplastics ..	5	4	1

Upon looking more thoroughly into the final results of pneumotomies, however, we find that only one case remained well for five years.

*Pneumectomies*—These are now referred to almost entirely as surgical curiosities. Tuffier, Lawson, Sarfert and Sonnenberg tried total extirpation of the apices—their idea being to remove the tuberculous area like solitary tubercles of the brain, or neoplasms. Sonnenberg was able to report a recovery at five years.

Tuffier says that pneumectomies are not encouraging, but he hopes that the operation will find its place in special forms of pulmonary tuberculosis—true localized tuberculosis at a very early period.

The method, however, has been largely abandoned on account of the bad results and the difficulty of diagnosing a strictly circumscribed focus. The majority of patients died.

*Pneumotomy*—In 1763, drainage of lung cavities was proposed by Barry, who reported a few recoveries after such incisions. Ponteau and David, in 1783, also advocated wide incisions of a cavity. Fayre recommended puncture, irrigation and tamponing of lung cavities. Mosler, in 1892, gave intraparenchymatous injections with a "Pravaz syringe." In 1893 he punctured a cavity with a large trochar and left in a permanent metallic canula. Later the passage was enlarged with forceps and a drainage tube was introduced through which he introduced potassium permanganate, carbolic acid or tincture of iodine.

Among the thirteen of twenty-six patients who survived pneumotomies only one remained well for five years—one re-



mained well for two years, but died in the third year of general tuberculosis.

According to Garré the indications for these operations are:

1. Wide incisions, drainage, or tamponing, respectively, of a cavity as indicated in cases of stagnation of secretion and decomposition through mixed pyogenic infection, with septic febrile manifestations.

2. Wide exposure and resection, as far as feasible, of the unfiltrated lung tissues, with extensive thoracoplastics is justifiable in the rare cases of isolated cavities and tubercular foci in the lower lobe.

3. Mobilization of the thoracic wall or the pleura in single stationary cavities of the pulmonary apices.

Quinke, in 1896, reported a case of a young man, twenty-six years old, who had had pulmonary tuberculosis since four years of age. He had a large cavity in the right side and suffered from profuse haemoptysis. *Operation* consisted in the resection of the second and third ribs from the corocoid process to the sternum, without destruction of the periosteum, and without opening of the cavity. Operative recovery in ten days. The thorax became depressed at the level of the resection—the cavernous symptoms of cough and expectoration diminished—he gained in weight. Ten months later the patient had a hemorrhage. The thorax had resumed its shape for the ribs had been regenerated. Operation consisted in an extensive resection of the second, third, fourth and fifth ribs, with an opening of the cavity. This was followed by death due to subcutaneous emphysema and asphyxia.

The autopsy showed the presence of two cavities—one old and fibrous, partly healed by the first intervention; the second was of recent origin.

#### ARTIFICIAL SHRINKAGE OF THE LUNG.

(a) *Artificial Pneumothorax*—Forlanini, in 1882, was the first to utilize arti-

ficial pneumothorax, although he did not publish his results until 1892, when he reported before the XI International Congress at Rome.

Adams, in 1887, mentioned a severe case of tuberculosis, with cavities and hemorrhages, in which rapid improvement and haemostasis followed through the development of a pneumothorax.

Artificial pneumothorax may be produced by injections of air, nitrogen or water. Forlanini used nitrogen—daily insufflations are made of 200-300 c. cm. of nitrogen, which is conducted directly through the skin and the muscles into the pleura, through a fine injecting needle. The aim is to make the affected lung shrink and so put it at rest. It can only be applied in cases where there are no pleuritic adhesions and it requires frequent repetitions as the gases are absorbed. The treatment is usually kept up for about five months.

Murphy, who used a slightly different technique from Forlanini, points out the excellent results in fever and haemophysis.

Brauer, partly in collaboration with Spengler, applied artificial pneumothorax successfully in forty-five of sixty cases. The failures were referable to extension adhesions.

Langman reported thirteen cases, some of which showed a marked diminution of fever. Considerable displacement of the heart was readily tolerated. As a rule, Langman aims at obtaining an intrapleural pressure of 5-15 cm. of water—later on in the presence of strong adhesions of 20-25 cm. of water.

Lempke reports 53 cases with a satisfactory outcome.

*The Reasons for Attempting Collapse of Lung*—Lamar says that it is assumed that the lymph and blood circulation in the collapsed lung are modified in such a way as to considerably diminish the overwhelming of the organism with

toxins. Certain authors claim to have demonstrated a venous hyperaemia of the collapsed lung, adducing this fact in explanation of the curative effect. This diminished overwhelming of the body with toxins would have to show by a change of the opsonic index and this was tested by Pigger in five cases treated with artificial pneumothorax. Two of these showed a permanent increase of the index. The toxin absorption was found to be lessened in a general way, autoinoculation taking place in the most favorable way in the in the sense that the positive phase is preserved notwithstanding fluctuations.

*Principles of Artificial Pneumothorax*  
(Forlanini):

1. The pneumothorax cures the destructive process of tuberculosis by absolutely immobilizing the lung.

2. The solutions of continuity, which are already established, including cavities, are made to disappear as the result of the compression, and in this way the agglutination of their walls is obtained.

*Indication* — Unilateral tuberculosis without advanced tubercular changes in the larynx and with adhesions weak enough to be relieved by the pressure of the pneumothorax itself. A bilateral distribution of the process does not always prevent the treatment.

*Contraindications*—(1) Cases with rapid course and bilateral distributions. (2) Cases with associated disease, especially circulatory disturbances, and in patients with an extra thoracic distribution of the tubercular process, such as tubercular peritonitis or intestinal adhesions.

Forlanini reports eight cases. In one case at autopsy the affected left lung was found to be transformed into a solid cicatricial mass without any remaining function, consisting for the better part of strands of very dense connective tissues. The cause of death was pneumonia of the right lung.

In another case of advanced unilateral tuberculosis of the lung with a rapid course and beginning lesion on the other side, a clinical cure was obtained in one month—alive and well five years later. The others were cases of unilateral pulmonary tuberculosis with cavities and pleuritic adhesions. They were clinical recoveries.

(b) *Thoracoplastics*—De Cereville, in 1885, performed rather an extensive costal resection to allow collapse of the lung.

Quincke used this method in 1888, and in 1896 reported mobilization of the thoracic wall with an occasional drainage of cavities. He advised this treatment in the fibrous type of tuberculosis.

Karl Spengler, in 1890, stated that small pieces of the 7th, 8th, 9th and 10th ribs should be resected. The minimum resection should be 25 cm. of costal material—in severe cases 30 cm. and over to be resected. The division should be directly in front of the costal tubercle extending anteriorly as far as desired.

In 1899, Turban recommended lower lateral segments for costal resection, aiming according to requirements, rather at shortening of the transverse diameter by the excision of a vertical wedge tapering upwards; or at the shortening of the longitudinal diameter of the thorax by the removal of a horizontal strip. He reported four cases:

One case improved.

One case died at the end of two months.

Two cases were not followed.

Landerer, in 1902, reported nine cases of costal resections. He resects from three to five ribs in tuberculous cases of slow progression. There was an improvement of the pulmonary and general conditions under simultaneous treatment with hetol. Garre and Quincke, in 1901 and 1903, declared that they were more in favor of mobilization of the thoracic wall than of

pneumotomy in the treatment of pulmonary tuberculosis.

Friederich has reported several cases in which he deossified one-half of the thorax. He operates rapidly and has succeeded in removing from the second to the tenth rib in ten minutes. In one of his cases, a cavity underwent spontaneous rupture.

Friederich limits his cases to those which show no improvement, or even a slowly progressive aggravation in spite of all remedies of general medicinal or specific antibacterial (tuberculin) treatment, and in which the simpler and less dangerous method of artificial pneumothorax does not accomplish the desired end. The object of the operation is the action of the atmospheric pressure on the preserved pleura. He strives to retain the costal pleura unharmed, thus the entire technique of the operative procedure is rendered essentially different from that of the old thoracoplastics, which were performed by the closure of persistent cavities after pleural empyema.

Friederich states that from past experience he has found that the more radically ribs are removed as far as the spinal column, the less liable are the contracting soft parts to lead to a scoliotic curvature of the spine; for every remnant of rib, as already pointed out by Karuvsky and Karl Spengler, serves as a lever and the force of the contracting soft parts acting upon it is transmitted to the spinal column.

Twenty-four to forty-eight hours after operation important disturbances of the heart function make their appearance. Various factors may be concerned in this cardiac collapse: (1) The changed physical relations for the circulation in the lung of the affected side. (2) The dislocation of the heart promptly following upon the relaxation of the thoracic wall with displacement of the root of the large ves-

sels. (3) The construction of the heart between one lung collapsing under the atmospheric pressure and the other lung undergoing compensatory dilatation.

The above mentioned physical and mechanical effects upon the lung of the operated side, when the costal and pulmonary pleura are entirely yielding, are followed by the process of scar tissue formation, which may be assisted by suitable bandages. A compressing adhesive plaster bandage relieves at the same time the distressing over-inflation of the diseased lung, that is no longer confined by the chest lung, when the patient coughs, and aids in the expulsion of sputum.

Friederich calls this operation "Pleuropneumolysis thoraco-plastica."

*Chondrotomy*—Nearly sixty years ago Freund advocated chondrotomy of the first costal cartilage in cases of apical tuberculosis with stenosis of the upper thorax, or in cases where the first costal cartilage has become ossified.

Kausch, in 1907, reported a case of a woman, fifty-nine years old, with incipient right-sided apical tuberculosis. He removed the first costal cartilage and a part of the first rib. The post-operative recovery was uninterrupted except for neuralgic pains of the right arm. The pulmonary findings were considerably improved upon discharge. It is too early for a final report.

In 1908, Seidel reported two cases of chondrotomy:

1. A young man, twenty-one years old, with a well marked apical catarrh of the left side and a typical paralytic thorax. A segment 2 cm. in length was removed from the first costal cartilage and adjacent portions of the first rib. A piece of the same length was removed from the second costal cartilage. Recovery was uninterrupted, but the patient complained of pain in the left arm. These had dis-

appeared at the time of discharge but dullness at the apex still remained. He had gained twenty-five pounds in weight.

2. A man, twenty years old; the right side lagged a little during respiration; it was an apical lesion. At operation the first costal cartilage was removed to an extent of  $\frac{3}{4}$  cm., and the second costal cartilage resected to an extent of  $\frac{1}{2}$  cm. The recovery was uninterrupted. The patient still has slight dullness over the apex.

Schmorl states that tuberculosis is apt to begin at points insufficiently aerated and so stenosis of the upper thorax is more susceptible to infection.

The observations of Freund were confirmed by Hart. Hart thinks the patient should be excluded from operation if the process extends below the second rib. Hart explains the apical lesions on the basis of the Pathologico-anatomical changes as follows:

(1) There is a primary arrest of development of the first costal cartilages, or the first ribs as well; it brings about a general stenosis and also a change of shape of the thoracic aperture in a straight oval direction, and it possesses a causative significance for the pulmonary tuberculosis of youthful individuals.

(2) This is more dependent upon senile changes and consists in ossification processes in the cartilaginous substance of the first rib which lead to imperfect aeration of the pulmonary apices, thus creating a predisposition for infection.

The indications for operation according to Seidel are:

(1) In adults or half-grown individuals with demonstrable stenosis of the upper thoracic aperture.

(2) All cases of tuberculosis catarrh of the apex in adult aged individuals, also when no evident narrowing of the

upper thoracic aperture can be demonstrated in case ossification of the first costal cartilage and relative immobility of the first costal ring enter into consideration.

(3) Cases of tuberculous catarrh in adults in whom the thorax is relatively well developed, but in whom the catarrh cannot be made to subside entirely, in spite of internal treatment. It has been shown by autopsy findings that the first costal ring may be so narrow in these cases as to give rise to a compression of the apical tissue, or actual formation of grooves. In children one can obtain the same results by deep breathing exercises.

Individuals suffering from stenosis of the upper thoracic aperture may be recognized according to Freund by findings elicited from inspection, palpation, mensuration and examination of the cartilage through the insertion of needles. Radiography is an aid. He thinks the operation is indicated in cases of recurrent apical affections in individuals with a family history of tuberculosis. The existence of other tuberculous foci exclude the intervention. Hart thinks incipient juvenile tuberculosis should be operated upon before sanatorium treatment in order to create a new joint through which the compressed upper aperture is lifted out, as it were.

In conclusion, it is only fair to state that thoracic surgery so far has not done much to benefit pulmonary tuberculosis. Some of the cures are almost worse than the disease, and it is almost impossible to rule out the factor that the patient would have recovered without surgical intervention. Chondrotomy and artificial pneumothorax are less mutilating and seem to have some definite field of benefit. The ideal procedure would be excision of the primary focus, but so far this has not been practical.

**ELECTRO-THERAPEUTICS.\***

By B. B. GROVER,  
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**WHAT IS ELECTRICITY?** While we do not know what it is, we do know what it is not. It is not a tangible entity; it is not, as many believe, an energy.

For convenience we use the term electricity as if it were a real substance, but there is no such thing as electricity. It has no being. It is a condition or state into which a body may be brought by suitable work done upon it.

Electric condition exists in the waters of the sea, the rivers and every babbling brook. It exists in the sandy loams of our agricultural areas, and in our mountain sides, in every blade of grass and each tiny leaf and flower. It exists in all forms of animal life and in the air that we breathe.

It assists in holding together every atom of our bodies. In fact, it is universal. While this condition pervades everything, it is not perceived by any of our senses; therefore, is not an entity; but when a certain work is done upon this condition it at once becomes manifest, and that manifestation is called electrification. This condition is fixed and operates according to fixed laws. These laws are simple, and the principle upon which they operate is easily understood. Knowing these laws it is easy to bring about certain results. Electro-therapeutics is based on these laws.

When electrification is at an equilibrium there is no phenomena, but as soon as this is disturbed we note the operation of these laws. When water is at rest there are no phenomena, but as soon as it is disturbed it at once seeks its level, thereby manifesting its energy. So with electrification: When disturbed there is an effort to equalize itself.

When water is seeking its level we say that it flows. When electrification is seeking its level we say that the current flows, but we do not know whether there is a flow of energy or a mere transmission of impulse; but for convenience we call it a current, and say it flows through the conductors and is impeded by insulators.

When electricity is spoken of general electrification is meant. The currents of electrification are divided into Galvanic, Faradic, Static and Dynamic. Galvanic and faradic are derived from chemical batteries. Dynamic or magnetic electrification is produced by mechanical action, and is produced in three forms—constant or direct, intermittent or alternating, secondary or induced.

Electro-therapeutics is based upon three things which are used as measures of strength, pressure and resistance. They are named in honor of the labor and study of three eminent men—Volta, Ampere and Ohm.

Voltage is the pressure head or electro-motor force.

Amperage represents the rate of flow of current strength.

Ohms represents the resistance in the flow of the current.

Ohm's law is the basis upon which is founded all calculations in electricity. This law is that the current strength is equal to the voltage divided by the resistance. To illustrate: The human body has a resistance of about 600 ohms, and the ordinary medical battery of 44 cells has a pressure of about 60 volts; so, in order to pass a current through the human body it will require one-tenth of an ampere of current strength, although this strength may be greatly increased by reducing the resistance, which may be done by changing the size of the electrodes, by changing their adaptability by moisture, and the material used in their construction. The mucous membrane of-

\*Read before the El Paso County Medical Society, Feb. 9, 1910.

fers but little resistance, hence very heavy doses may be administered through the different cavities of the body. The ordinary portable, galvanic battery, even of the very best make, carries from four to twelve volts, hence only able to administer six to eighteen milliamperes through the human body, so that its usefulness is very limited.

The usefulness of electrification lies in its polar selection and the size of the dose. In order to administer the dose required in every-day practice, it is necessary to have ample pressure or voltage to secure the desired result, and this cannot be done without at least a 40-cell battery, each carrying  $1\frac{1}{2}$  volts.

Ninety per cent of the work done by the electro-therapist is accomplished by the galvanic current; so, in order to be successful in the use of this potent agent one must have within the circuit a perfect working reostat or current controller as well as a milliamperemeter, so that the dose can be regulated to the fraction of a milliampere. Another reason why the ordinary portable battery is worse than useless.

While the faradic current is derived from a chemical battery, voltage is of little consequence because its use is confined to superficial work, and the pressure is not required. Hence a battery of two to four cells is all that is necessary.

The galvanic is a constant current, while the faradic is an interrupted and alternating one, made so by the imposition of a coil with a make and break rheotome. This current has but little amperage because of the rapidity of the make and break of the current. Its use in practice is confined to its diagnostic value through its ability to contract muscular fiber and its bi-polar effect in producing sedation.

The ordinary so-called family battery's usefulness is limited to its ability to con-

tract muscular fiber. The coil of these cheap batteries is made of short, coarse wire, emitting a heavy spark at the make and break of the current, and capable of causing painful contractions and irritating the superficial nerves. This is the style of battery that has been used so much by physicians with dissatisfying and discouraging results. This is the style of battery that many physicians have tampered with and justly condemned as being of no use in the practice of medicine, but there have been during the last twenty years so many improvements made in electrical science that it is almost impossible to keep in touch with them. I hear a doctor say, "O, yes, I tried electricity and it didn't work. The only benefit is phychic, and I'll let the quacks attend to it."

It is only a few years since that electricity did not give us light, heat and power, but what of those uses to-day? Its use in the practice of medicine has made equal strides, but the great majority of physicians neither have the time nor inclination to keep up with this important work.

The electro-therapeutic equipment of to-day is as far advanced over the one of twenty years ago as is the electric light over the tallow candle, the electric car over the horse car, or the automobile over the burro. The effect of a high tension induced current from a properly constructed battery is more potent in relieving pain than that of drugs.

From a medical standpoint we understand phoresis to be the introduction of medicaments by means of electrification into the body through the skin or mucous membranes.

We know that the positive pole is acid and attacks corrodible metals, thus forming an oxide. This unites with the chlorine of the tissues, forming an oxy-chloride of the metal, and is driven into the

tissues, where it exerts its chemical property which is astringent and antiseptic. The metals usually employed are zinc, copper and mercury. Every atom of known substance has a positive and negative polarity, and it depends upon this polarity as to which pole should be used to produce results. No one posted would ever think of trying to introduce cocaine into the tissues with the negative pole, or iodine with the positive.

The process of diffusing substances into the tissues by means of the positive pole is called anaphoresis, and by the negative, cataphoresis.

By anadol diffusion an ulcer may be sterilized almost immediately. Dr. Massey has been very successful in the treatment of malignant growths by this method.

Electrolysis is the chemical decomposition of a compound body by electricity, and this compound must contain water and a salt.

The galvanic current is the form that causes this decomposition. We do not speak of electrolysis as having a cautery effect, but at the same time cautery effects may be produced by a careless operator by an overdose, as well as he can poison his patient with an overdose of medicine. When applied in the proper dose it will stimulate absorption, and is useful in the removal of hyperplasias and exudates, while with an overdose you burn and destroy the tissues.

At the positive pole oxygen and acid elements are liberated, causing coagulation of albumen and shrinking of the tissues, and a superficial, dry, white and hard cicatrix.

At the negative pole hydrogen and alkaline elements are liberated, which do not coagulate albumen or cause shrinking of the tissues, but produce a moist condition of exudates and puts them in a condition for absorption. Moles, warts,

superfluous hair, etc., are easily removed by negative electrolysis without leaving a scar. The positive pole would remove the growth, but would cauterize the tissue and leave a scar, causing disfigurement as much as or more than the original growth.

The positive pole drives blood from the part by contracting the blood vessels, thus relieving congestion and inflammation; its action is sedative and relieves pain, while, on the other hand, the negative pole causes congestion and aggravates pain if present.

By electrification nutrition is affected directly and indirectly, and by this process the stimulation, sedation, temperature and growth and function of every part of the body can be more or less regulated through the vaso-motor nerve supply to the part.

Electro-diagnosis is a subject of great importance, and one seriously neglected by the profession, probably due to its difficult technique. By its use, however, we gain a knowledge of the probable duration and curability of diseases which could never be obtained in any other way. The late inventions for the measurement of the galvanic current, and their employment, have simplified the whole question of electro-diagnostic examination of motor nerves and muscles.

The importance of and accuracy in the subject are evident when we consider that the correct determination of polar responses of the muscles of a limb may mean for the patient a verdict of incurable cerebral disease on the one hand, or a trifling pressure palsy on the other.

This work has an important bearing on another class of verdicts also: Those in courts of law, in determining the presence or absence of lesions due to accidents. If courts and lawyers understood the value of this work many honest claimants would be assured of their rights and many dishonest ones exposed.

Electro-diagnosis will clear the mind of the physician as to whether his patient's pain or palsy is of local or central origin. It will differentiate for the gynecologist hysterical or ovarian neuralgia from organic disease of the tubes and ovary, and possibly save the patient from being unsexed and the surgeon from humiliation.

Electro-diagnosis will eliminate at least 60 per cent of your cases of rheumatism. I do not deny the existence of muscular rheumatism, but I affirm that over 90 per cent of the cases of so-called muscular rheumatism are really peripheral neuritis.

It is so much easier to write a prescription for a coaltar derivative, some salicylate or possibly a liniment, than it is to diagnose a case of neuritis and prescribe the curative remedy—electrification. It has been my fortune (or misfortune) to have treated 2,000 cases of self-diagnosed [or referred by physicians as] rheumatism. Twelve hundred of these cases turned out to be neuritis. Sciatica or sciatic neuritis, in a very large percentage of cases, by physicians is diagnosed as rheumatism. The patient is dosed with anti-rheumatics and coaltar derivatives, and many times with hypodermics of morphia to the loss of the physician's temper and likewise his patient.

I might here add that neuritis has materially increased since the advent of trional. This drug is frequently prescribed as a hypnotic in cases of sciatic neuritis which always adds fuel to the already existing flame.

The range of usefulness of electro-diagnosis is by no means extensive, yet, as far as it does go its indications, whether positive or negative, are of great value.

In the treatment of strictures of the urethra by electrification, to be successful as in all other cases, one must be familiar with the pathological condition

present, and understand the principle involved in the action of the galvanic current in absorbing morbid tissue.

With requisite skill and patience upon the part of the operator, electrolysis will as surely cure urethral stricture as quinine will malaria. On the other hand, much harm may be done by the hasty and inexperienced operator. I once stood by the side of an operator who condemned electrolysis as worse than useless, and witnessed his assault upon his patient's urethra with the positive pole of a galvanic battery carrying fifteen milliamperes of current. Why did he condemn the operation? Because he was totally ignorant of the first principles of electrolysis. The two minutes' assault by the physician was more harmful than all the gonococci that his patient could have contracted in a lifetime.

In years gone by I have cut the roof of many urethras, thus making detours in healthy tissue around the strictures and sentenced those patients to the use of a bougie for life, and so have you. I have assaulted many urethras with steel sounds and produced traumatisms that only made bad matters worse—and so have you. I did not cure their strictures, neither did you. During the past nine years I have cured every case of simple hyperplastic deposit about the urethra with electrolysis. Strictures of fibrous bands and dense cicatricial tissue cannot, in any reasonable time, be removed by electrolysis. Here is where division and divulsion are the only hope for relief, but by no means a cure.

In a large majority of cases the fibroplastic material is deposited upon the floor and sides of the urethra, and an incision made in the roof enlarges the caliber only temporarily at the expense of healthy tissue, and the fibroplastic material still remains to haunt the operator and distress the patient for all time. The same gen-



eral facts apply to perineal section. Rapid dilatation or divulsion should be condemned by all practitioners. The advantages of electrolysis in the treatment of stricture may be summed up as follows: **FIRST**—The operation is painless and devoid of danger. **SECOND**—No loss of time from business. **THIRD**—No hemorrhage, no chill, no traumatism, no resulting scar, no incurvation of the penis and no relapse. **FOURTH**—The operation cures.

Some of the diseases of the uterus and its appendages are so closely associated that it is impossible for the gynecologist to make a diagnosis without an operation or an autopsy.

One of the consolations of the electro-therapeutist lies in the fact that curative results are frequently achieved without regard to mistakes in diagnosis and without any attempt being made to classify in terms the lesions. We may properly select from the various forms of electrification, in accordance with the indications, and cure the patient while the expert diagnosticians are still in controversy over the diagnosis.

The treatment of these cases by electrification includes nearly all from cervical stenosis to inflammatory exudations that completely fix all the organs of the pelvis. There is no disease of the pelvic organs of woman that cannot be alleviated or cured by electrification. The growth of fibroids can be stopped and the patient allowed to enjoy comfort for many years.

We all have many cases of cervical erosion, endo-cervicitis, metritis, endo-metritis, etc., and have made topical applications of almost everything in the pharmacopœa, and have, no doubt, done some good, but I have no hesitation in saying that we can accomplish more with four treatments with electrification than with forty of any kind of topical application.

Topical applications relieve, but electrification cures. Do not understand that I decry the use of the knife when necessary, but I do say that many women are unsexed who could have been restored to health by electrification.

In electro-therapeutic practice we find our patient in one or the other of the following classes, viz.: (1) Those who are amenable to electric treatment; (2) those who are in a condition so bad that operation offers but little chance for recovery and the surgeon declines; (3) those who should be operated upon but refuse.

Sometimes the aid of electrification will allow a very minor surgical operation to take the place of a more serious one. Nearly all septic cases should be referred to the surgeon.

The variety of uses to which electric currents are daily put, and the benefits derived from them in medical practice, are not generally understood and appreciated, but knowledge is gradually spreading, and each year instructs a new generation of physicians in its principles.

The rapid strides made in the use of electrification during the past few years have stimulated scientific men, the outcome of which has been the production of apparatus for the application of electric currents that would have amazed the medical man of ten years ago.

If I have succeeded in creating an interest in this much-abused but meritorious and almost indispensable addition to our armamentarium, I am satisfied.

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The American Proctologic Society will hold its twelfth annual meeting in St. Louis, Mo., on June 6 and 7, 1910. Their headquarters will be at the Planters' Hotel.

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A monthly journal, edited by P. B. Thatcher, Philadelphia, entitled, *The Physicians' Business Journal*, will begin publication in May.

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A meeting of the International Commission on Control of Tuberculosis Among Domestic Animals, was held in Detroit, and many important papers were read. The Commission represents Canada and the United States.

**ICONOCLASTIC REVISION OF A  
CLASSICAL CASE OF DIVER-  
TICULUM OF THE OESOPH-  
AGUS.\***

By C. D. SPIVAK, M. D.

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By diverticulum of the œsophagus we understand a dilatation of the wall of the œsophagus forming a blind pouch. v. Zenker and v. Ziemssen were the first to classify diverticula of the œsophagus. A pathological condition of an inflammatory character occurring in any of the adjacent organs or tissues outside of the œsophagus will eventually exert a certain traction upon the wall of the œsophagus and produce a pouch—a *traction diverticulum*. A pathological condition occurring within the lumen of the œsophagus, may produce a dilatation of a certain part of the wall of the œsophagus immediately above the lesion—a *pulsion diverticulum*.

These two kinds of diverticula differ not alone in their pathogenesis, but also in their frequency, morphology, localization and symptomatology.

A traction diverticulum has its seat in the anterior wall of the œsophagus, at the bifurcation of the trachea, is funnel-shaped and of from 2 to 8 cm. in depth. It runs its course without producing any symptoms, and is therefore not recognized during life.

A pulsion diverticulum has its seat in the cervical portion of the œsophagus, the entrance of the diverticulum being situated exactly at the level of transition from the pharynx into the œsophagus and is therefore called pharyngo-œsophageal diverticulum. It presents a pear-shaped pouch measuring 13 cm. and more in depth. It gives rise to definite symptoms of which dysphagia is the most prominent.

In the latter stages of the disease, when the pouch is filled with food, a circumscribed or diffuse swelling in the neck in the region of the œsophagus can be detected, which disappears after vomiting or artificial evacuation of its contents. It is a disease of advanced life.

These are in main the diagnostic points which differentiate the two kinds of diverticula as described by the above mentioned eminent observers. The classification was accepted unchallenged by all pathologists and internists, until the following case was reported fourteen years ago by Dr. Z. Bychowsky of Warsaw in Virchow's Archiv fur pathologische Anatomie und Physiologie und fur klinische Medicin, 141 Band, p. 115, 1895.

P. W. 21 years old, tailor's assistant; has vomited for 9 years; vomits immediately after each meal; sometimes also during the meal. Vomitus consists of the articles eaten. The only pain he complains of, is insignificant pressure soon after eating; it appears in the region of the sternum. No belching or heartburn. The appetite is always good. Bowels regular; patient is not debilitated; he works at his trade 10 to 12 hours daily, and studies besides; has never had any serious illness. Has always had bad teeth; a year ago had them pulled and had artificial teeth to replace them. Parents living; mother suffers from articular rheumatism; no pulmonary diseases in family. No excesses in Baccho et Venere. Medium size, normal construction; nutrition satisfactory; weight 54.5 kgr. Complexion dirty yellow; slight exophthalmos; no teeth; laryngoscopic examination normal; neck configuration normal; no scars; lungs and heart normal; no abnormal dulness over thorax; abdomen not distended; no tenderness on pressure; no splashing sound; lower border of the stomach above umbilicus; urine free from albumin or sugar, trace of indican. All

\*Read before the Colorado State Medical Society, Sept. 14, 1909.

types of sensation normal; field of vision normal; knee jerks quick, but not exaggerated; cutaneous reflexes normal; no signs of hereditary or acquired syphilis. Examination of stomach before breakfast; an ordinary bougie was passed without any difficulty; through it escaped about 100 cc. of a dirty-yellow, thick, opaque, almost odorless fluid of neutral reaction. Under the microscope the fluid was found to contain numerous food particles and several pieces of stratified squamous epithelium covering almost the entire microscopic field. There were no sarcinae. During the subsequent examinations lactic acid was found on several occasions, but no hydrochloric acid.

No known gastric disorder could be diagnosed from the patient's history or from the clinical data. The absence of physical signs, the history and the type of vomiting excluded gastric dilatation. The presence of epithelium was difficult of explanation. The gastric contents normally contains isolated squamous epithelium from the oral cavity, but never large plaques; furthermore this was stratified epithelium. The deeper layers consisted of cylindrical cells; then followed layers of round or polygonal cells, and only the uppermost layers were large flat cells, similar to those from the mouth. It was evident therefore that the epithelium came from the œsophagus. Gastric neuroses were excluded through the absence of any nervous symptoms. The following end results of various other examinations showed that the patient suffered from a curious hitherto undescribed œsophageal diverticulum.

An ordinary soft stomach tube meets at 40 cm. from the incisors with an insuperable obstruction. If an attempt is made to overcome it by force, the tube bends upon itself, and the lower end returns ultimately to the mouth. A hard bougie does not go further than 36 to 37 cm.

Through an ordinary stomach tube from 250 to 300 cc. fluid may be passed into the pouch gradually, and this quantity may again be removed through the ordinary manipulations employed in washing out the stomach. If, however, more than 300 cc. is permitted to run down, it returns to the mouth spontaneously. He can swallow from 250 to 275 cc. of warm fluids gradually without vomiting it. If now an ordinary stomach tube is pushed into the œsophagus, the fluid returns through it easily and without movements of vomiting; as soon as it is 22 to 25 cm. distant from the incisor almost the entire quantity of the fluid will thus return. The performance of this experiment was always preceded by aspiration of the diverticulum. The fluid was always colored with red wine or tea; a portion was permitted to remain behind for control. The fluid removed through the tube retained this color, but was somewhat more turbid. An electric bougie stuck at the same point as the other instruments; no transmitted light could be seen in the dark room. The diagnosis of an œsophageal diverticulum seems thus proven. It begins probably at from 20 to 22 cm. from the incisors, as the contents of the full diverticulum run off, when the stomach tube has reached a distance of from 22 to 25 cm. from the incisors. The lower end of the diverticulum must be from 36 to 37 cm. and its capacity from 250 to 300 cc.

As inflation of the diverticulum did not produce any change in the configuration of the neck, the author places the opening of the diverticulum at the lower border of the neck immediately above the bifurcation of the trachea.

Once after emptying the diverticulum, the author was manipulating the tube along the neck to enter the stomach. The fluid re-

a few minutes before did not react to any of them. There was no sign of any stenosis along the œsophagus.

The above are the salient points in the author's report of the case. The case was so carefully studied and minutely observed the data were so lucidly presented and the conclusion so logically adduced that it received immediate and universal recognition at the hands of all the pathologists, internists, and surgeons. A third form of diverticulum was added, namely, the deep seated, or the œsophageal, in contradistinction to the pharyngo-œsophageal of v. Zenker and v. Ziemssen. Furthermore the author has shown that a pulsion diverticulum may occur in the very young. All the text-books on surgery refer to this case (von Bergman, Kenn, etc.), and in the bibliographies attached to articles on the subject the author's name occupies a place of honor.

The author is cock-sure of his diagnosis and feels elated at the thought that he is a veritable iconoclast, having demolished the authority of v. Zenker and v. Ziemssen. In concluding his article, Dr. Bychowsky falls into a musing mood and cries out: Whence doth the patient derive his sustenance? Whence doth he gather strength for his physical and spiritual life? He tells us wonderingly that he had many occasions to observe that the patient vomited up most of his food after ingestion, and that even 12 to 14 hours after a meal, a quantity of food-remains were removed from the diverticulum. The patient does not lose any weight and looks, if not a picture of health, certainly by far not emaciated or forlorn. These reflections once started, are given full rein and bring up to his mind the pictures of Hindu fakirs who allow themselves to be buried for many days by the professional masters like Tantri, etc. and wonders of the magic which maintain it in such a

scant dietary. After reading this case which has become a classic, one is apt to involuntarily cry out with the Psalmist: How wonderful are thy works, O Lord!

The tableau changes. Fourteen years after, the hero of the story comes to Colorado on account of lung trouble, enters the sanatorium of the Jewish Consumptives' Relief Society at Edgewater, Colorado, and fortunately, or unfortunately for him, falls into the hands of the writer. As in the days gone by, the new Esculapian claims that he, too, had carefully studied and minutely observed his victim, and begs to present the story partly revised, mostly rewritten, with all the scenes entirely recast. My esteemed predecessor, when he reads my version, will hardly recognize the villain he created.

The trouble commenced when the patient was 12 years old. He remembers distinctly that it followed a severe cold in the month of March. It came on suddenly; at first he was unable to swallow any food, each mouthful came up as soon as it was ingested. Later he was able to eat his meals in comparative comfort, but would vomit up a quantity of the food after meals. For the next six years he subsisted mainly on white bread, tea and large quantities of sugar. When he was 18 years old a piece of meat stuck in his throat which caused him severe pain and cramps. He was relieved only on the third day, when he vomited up the morsel of meat. The celebrated gastroenterologist, Reichman, also a resident of Warsaw, treated him for over a year without effect. He then came under the observation of Dr. Bychowsky, the record of whose observations, during one and one-half years we have recited above. The patient then went to Berlin bearing letters of introduction from Dr. Bychowsky to Professors v. Bergman and Koenig. These celebrated surgeons both extended to the patient a cordial invitation to enter their respec-

tive clinics, and Professor Koenig expressed himself that an operation would be imperative. The patient declined with thanks and wandered thence to Paris. There in "gay Paree" he found that the drinking of wine with his meals facilitated the swallowing of food. The mixing of wine with water seemed to make the bolus even more slippery. When in 1900 he came to the United States there came an end to his wine-bibbing, and beer took its place. Later the mother of invention—necessity—taught him that pure water answers the same purpose. He drinks with each meal from two to four glasses of water in sips, flushing each morsel he swallows. The water must be of a certain temperature, if too cold or too hot it does not help bring down the food. He is unable, however, to take a large draught of water. When he drinks milk, coffee, etc., he is also obliged to drink water to make them go down. For days at a time he does not bring up any food after meals if he is careful in generously watering his meals. Sometimes he brings up some liquid an hour or so after a meal which does not give him any distress. For the last 10 years he vomits frequently in the morning a glary sour liquid. Of all meats, beef is the most difficult to swallow. Raw meat slips down the easiest. Fruit must be denuded of the skin; with boiled potatoes he must take great precaution, and sometimes the smallest particle will produce an obstruction which no amount of water will wash down. He takes about twice as much time for his meals as his fellow-diners.

I have made the following observations upon the patient. On introducing the stomach tube into the œsophagus an obstruction is met at a distance of 16 inches from the incisors. From half to three ounces of liquid is brought up which is always alkaline in reaction, and is odorless. I at first tried stomach tubes of

various flexibility, and bougies of various materials, calibres, etc. They all had the same fate—they came to a standstill at the same distance from the incisors, no matter what manipulation I used. After many ineffectual attempts, I decided to construct a bougie of my own, consisting of a wire cable, to the distal end which I soldered the smallest olive point I could obtain. How great was my surprise when the resistance which the bougie at first met at the same distance as the other instruments, was easily overcome by the merest pressure and smoothly glided to a depth of 22 inches. I was in a tremble lest I perforated the bottom of the diverticulum. The patient assured me that he felt the bougie had passed the obstruction and entered the stomach. I withdrew the bougie and having convinced myself that the patient did not suffer any inconvenience, I reintroduced it many times on various days, and each time succeeded in passing the obstruction. It was evident therefore that my success was not due to an accident. I knew that I was not sounding the bottom of a diverticulum, but simply passing an obstruction in the lumen of the œsophagus.

The attempt, nevertheless, of passing a stomach tube did not succeed; it met with the same resistance at the same distance from the incisors. I introduced the cable bougie into the stomach and then slipped the stomach tube over it and kept on pushing the tube. Another surprise was in store for me. The tube entered the stomach with as much ease as the bougie itself. I have succeeded in the same manner every time I tried it. After removing the cable from the tube I succeeded in obtaining the stomach contents of a test meal which showed the presence of hydrochloric acid and his stomach was afterward washed repeatedly.

Dr. Childs was kind enough to take X-ray pictures after the patient was given

bismuth subnitrate in capsules, and in emulsion, and also after the patient swallowed a gold chain. All the shadowgrams showed that the bismuth was spread in the direct course of the œsophagus, and the gold chain coiled in loops throughout the median line.

Now, ladies and gentlemen, here we have a case of dysphagia which had a sudden and violent onset, which improved under no particular treatment, a dysphagia which after 23 years of existence has of itself neither diminished the weight of the patient nor undermined his health. The following facts militate against the existence of a diverticulum: the ability of the patient to swallow food when well washed down with water; that he never vomited food which he ingested one or two days before; that as a rule he vomits immediately after or during his meal, and above all, the fact that we are able at all times to introduce a bougie and tube into the stomach would make the idea of the existence of a pulsion diverticulum preposterous and ridiculous. Dr. Bychowsky claims that he was able to introduce 300 cc. of water into the œsophagus which he could afterward siphon out. I cannot corroborate his statement. I have on various occasions introduced water into the œsophagus, and it invariably returned after only two or three ounces were introduced. The X-ray pictures do not show the existence of a diverticulum.

There are two other possible conditions which could give rise to the condition, namely, stenosis on an organic or functional basis, and diffuse dilatation of the œsophagus. That there is a stenosis of the œsophagus there cannot be any doubt. It is palpable. That it is not of organic origin is also clear, because it existed for so many years without undergoing any change for the worse. On the contrary, it showed at different periods a great deal of spontaneous improvement. That it may

be a diffuse dilatation of the œsophagus that is only one fact in its favor, namely the statement of Dr. Bychowsky that once upon a time the œsophagus was able to hold quite a quantity of liquid. Since, however, I could not corroborate his finding of 14 years ago, I assume the supposition that the dilated walls of the œsophagus returned to their normal position, an assumption which is hardly tenable. Besides, if, for the sake of argument, we will admit that even at the present time there is slight diffuse dilatation of the œsophagus, all the authors who hitherto reported such cases assert that the œsophagus is always patent and that no stenosis was ever found in connection with diffuse dilatation.

There remains the only alternative of a diagnosis, namely, stenosis of the cardiac end of the œsophagus, or in other words, cardiospasm. The symptoms point to such a diagnosis; the sudden onset, the youthfulness of the patient when he was first stricken with the disease, the long duration of the disease without impairing the patient's health, the periods of comparative freedom from all symptoms, especially the absence of vomiting, the peculiar behavior of the œsophagus in the presence of certain kinds of foods, chicken for instance being swallowed easier than beef, coffee requiring to be pushed from behind by a gulp of water, a few potato starch-grains playing havoc with the gullet, and the sensitiveness of the mucous membrane to certain temperatures, very cold and very hot water not being able to perform the office of the propeller.

There are many cases on record in which the diagnosis required revision. A case, however, which became the basis for a new classification of the pathology of the œsophagus, which is quoted and referred to as authoritative in all textbooks and monographs on the subject, in short, a case which became a classic and

is found fourteen years after to belong to the category of "such stuff as dreams are made of," offers ample excuse for reporting. The writer hopes that Dr. Bychowsky and the new editions of books on surgery and pathology will have the goodness to state: we stand corrected, since *Errare est humanum*.

### *MULTIPLE GUMMATA OF THE LIVER.\**

By O. M. SHERE, M. D.  
Denver, Colo.

It would seem as though an apology is due you for bringing a subject before the surgical section, which at first glance would be allotted to the domain of medicine; however the case upon which this communication is based will demonstrate, that, under certain conditions, syphilis of the liver may be considered as a surgical disease and must be treated as such. As Munro says: "Though syphilitic disease of the liver is not ordinarily classed as surgical, yet fully 2 per cent of operative cases on the liver and its bile passages at the Carney Hospital have been that of syphilitic affection." In his experience roughly the non-operative cases show marked specific history as the important factor, whereas in the operated cases, though the history may be recognized and soon considered as a leading factor, it does not compare with the subjective and objective signs. The dominating symptoms always indicated some lesion which demanded surgical exploration at least on the score of safety. An example of this latter group is offered by the following case which recently came under my observation.

*Case Report.* Patient M. B., male, aged 34, tailor by occupation. In Colorado seven years. Previous residence New York and Nebraska for eight and

four years respectively. Married for fourteen years, has one child aged twelve, in perfect health. His wife is well, never having had any miscarriages.

*Family History.* Father aged 76, and mother aged 70, alive and well. Four brothers older than himself, and four sisters, one older and three younger, all living and well. Hereditary tendency to tuberculosis or malignancy negative.

*History of Previous Diseases.* Had the usual diseases of childhood, and aside from these was always well nourished and never ill until the age of eighteen when he acquired syphilis, for which disease he was not treated a sufficient length of time to effect a cure. As soon as the active symptoms abated somewhat he would immediately discontinue the use of medicine. Five years ago he developed a persistent cough accompanied by night sweats, anorexia, chills, with indefinite pains over the left side of the chest. Expectoration was very scanty and upon repeated examination proved negative to t. b. These symptoms persisted for two months during which time he lost seven pounds in weight, felt languid and too weak to work; was advised to go to Colorado. Upon arrival here he was examined and pronounced tubercular, although repeated microscopical examinations of his sputum failed to disclose any tubercle bacilli. After a short stay in a sanatorium, his symptoms gradually disappeared, he gained weight, and after a few months resumed his work. Was well until eighteen months ago, when he first complained of severe pain in the epigastrium and right hypochondrium, which was aggravated on resuming the recumbent posture. This pain kept up for a few days and was finally relieved by hot poultices. The physician in attendance diagnosed the trouble to be one of acute gastritis. In a few weeks the pain returned, and was greater in severity and lasted longer than during the pre-

\*Read before the Colorado State Medical Society, Sept. 14, 1909.

vious attack. Since then the attacks have been somewhat more frequent. The last one was about four weeks before the present illness. In all of these attacks the paroxysm, though severe, has been unaccompanied by jaundice, fever, chills, nor vomiting. Bowels were somewhat constipated. Has lost fifteen pounds in weight.

On December 2nd, 1908, the patient again had severe pain in the epigastrium which gradually increased in intensity. Vomiting for the first time now set in, and he was unable to retain even a small quantity of water. Bowels did not move for three days, although repeated enemas both high and low were given. This condition persisted until December 6th, 1908, four days after its onset, when I first saw the patient, at which time the following condition presented itself: Patient appears cachectic, and his extremities are cold. He complains of severe agonizing pains in the region of his stomach, accompanied by nausea, and frequently vomits small quantities of greenish fluid. Elevation of temperature up to 102.5 was at times noted, and the pulse which was 110, became weak and somewhat irregular. The vomiting became less on withdrawal of all nourishment by mouth, but did not cease, and at intervals the patient was troubled by persistent belching, which caused him great pain. The bowels were moved by calomel and enemas, but the epigastric distension, which had developed a few days prior to this date, gradually became more marked. Associated with this was marked rigidity over the epigastrium, especially of the right rectus muscle. Tenderness on pressure was also obtained over these regions. This entire area was dull on percussion, breathing excursions were limited as far as the umbilicus. On percussion the liver dullness extended three fingers' breadth below the costal arch. Examination of the lungs

discovered no other abnormality than a respiratory rate (38 per minute) and a slight impairment of the play of the left upper lobe. There were no palpable glands. Blood count: reds, 3,400,000; whites, 8,700. Haemoglobin, 49 per cent. Urinalysis, negative.

*Diagnosis.* In the presence of the above physical findings, the most prominent symptom leading to a diagnosis was the involvement of the peritoneum which called for immediate surgical interference. The peritonitis, however, was considered as a super-imposed condition upon an existing broken down gumma or carcinoma in the region of the stomach. No tumor mass could be outlined on account of the great distention of the upper portion of the abdomen. The patient was given this provisional diagnosis, and advised an exploratory operation to which he readily consented.

Operation at St. Joseph's Hospital, December 11th, 1908, under ether anesthesia. The abdomen was opened through the right rectus muscle. Upon entering the peritoneal cavity, dense adhesions were encountered binding the pyloric end of the stomach, duodenum and a portion of the transverse colon in one mass, all being adherent to the under surface of the liver. These adhesions were ligated and severed. When the region about the foramen of Winslow was reached, quite a quantity of sero-fibrinous exudate was evacuated. Thorough inspection revealed no lesions of the stomach, duodenum nor gall bladder. The liver, which was next examined was found very much larger than normal. The convex surface of the right lobe presented numerous hardened nodules ranging in size from a grape to that of a hen's egg. The intervening liver substance was hard to the touch. About the middle of the anterior surface of the right lobe was found a broken down mass resembling caseous degeneration. This



mass with its surrounding zone of normal liver tissue was removed and saved for examination. The denuded area was sutured and a small gauze drain introduced down to the point of the liver, where excision had been made, and the abdomen closed. The pathological report upon the specimen submitted for examination was that of gumma with a portion of its substance in a state of fatty degeneration.

For some days after the operation the patient seemed quite ill and exhausted. The most disagreeable symptom was vomiting of large quantities of bile; this condition, however soon subsided, and the patient made an uneventful recovery, leaving the hospital in three weeks from day of operation.

*Subsequent History.* Ten days after operation he was started on small doses of potassium iodide, which were generously increased from day to day, so that at the end of one month he was taking 120 grains of the drug three times a day. At this writing the patient is in perfect health, having gained 45 pounds in weight. The liver is very much smaller, as shown by the lines marked "B" on the accompanying photograph. Some of the gummata are still evident on palpation and it is to be hoped that with the continued use of the iodides these will entirely disappear.

An analysis of this illustrative case shows: (1.) That the underlying process was one of multiple tumors in the liver due to acquired syphilis, and owing to the breaking down of one gumma; autoinfection with the beginning of an abscess formation gave rise to a localized peritonitis demanding immediate surgical interference; (2.) the dense adhesions which bound the stomach and duodenum to the liver were responsible for the purely gastric symptoms, the latter disappearing as soon as the cause was removed; (3.) nothing short of an exploratory operation

would ever have cleared up the diagnosis, and in turn restored the patient's health, and given him a prolonged lease on life.

It is pertinent at this point to consider briefly the pathology and general diagnosis of this disease. As to the former, very little can be found in the early essays on this subject. Morrow says: "Gummatous tumors of internal organs have been known for a long time, but their exact nature was not understood, and they were regarded as steatomata." The first distinct appreciation of them dates from the investigations of Dittrich, who in 1849, demonstrated syphilitic tumors of the liver. They had been observed before, but another character was assigned to them. Dittrich, however, was greatly in error in his conception of the true pathological process of these growths. He regarded the gummata not as tumors, and even not as new formations, but as encapsulated, unorganized exudations. The true pathology of these growths dates from the classical investigation of Virchow, who has classified them in three forms, the gummatous, fibrous interstitial, and the fibrous perihepatitis. These forms may frequently be combined. The most recent gummata, as seen in the case above reported, are composed of soft, reddish gray vascular connective tissue, which is rich in young spindle cells. When near to surface they may project and there is little or no contraction of the tissue around them. After a time irregular, yellow homogeneous dense masses appear in the center of these: at the same time the connective tissue in the periphery loses its soft vascular character and becomes changed into dense, transparent cicatricial tissue. It rarely appears as a smooth investment of the yellowish central masses, but bands radiate out from it in all directions into the surrounding tissue. The yellowish center seen in one of the gummata above referred to was due to a de-

structive process in which the cells and tissue have undergone coagulation necrosis and was undoubtedly due to the anemia resulting from vascular obliteration. Fortunately after the gumma has undergone this process, farther changes do not take place.

*General Diagnosis.* Though the formation of single or multiple gummata of the liver is a not very uncommon lesion of tertiary syphilis, yet the diagnosis is very difficult, owing to the fact that the symptoms are frequently so unimportant that the disease may easily be overlooked. According to Johnson, the most constant phenomenon other than enlargement of the liver, with the formation of one or more hard palpable tumors, sensitive on pressure—is pain. In the earliest stages pain may be slight or absent, but the formation of contracting bands of connective tissue causing depressions and inequalities of the liver surface, is regularly accompanied by pain. In some cases a perihepatitis and adhesions to surrounding structures takes place. The pain may be constant, heavy, and dragging, referred to the whole liver region or to a particular part. There may be sudden exacerbations of pain; usually the patients suffer great discomfort all the time. The physical signs do not permit a differentiation from carcinoma of the liver, notably when the disease occurs during the cancerous age. A second symptom is jaundice; this condition is much more rare than pain and can only be present from compression of the common bile duct. The presence of ascites due to pressure on the portal vessels is said to be always present by some writers and Munro found it so even in patients with the isolated type of gumma; this, however, was absent in the case here reported. In brief there is no single point which is diagnostic of syphilis of the liver, for anatomic changes productive of the same conditions of the organ may be

found in a number of other diseases. There is only one measure which may aid us in clearing up a case where a specific history is suspected, and that is, the Wasserman reaction, or the demonstration of the spirochoeta pallida of Schaudin by some of the newer methods recently outlined by Hoffman, Blumenthal and others.

As to treatment very little can be said. Ausschultz and Hans Kirk think that even after exploration, if lues of the liver be found, the wound should be closed and anti-syphilitic treatment pushed to the limit of tolerance. This method was followed in my own case with excellent results. Some patients, however, will not be benefited by the iodides and in such instances it becomes necessary to resort to the removal of the growths. MacLaren collected ten cases of either complete or partial removal of large gummata, including one case of his own, with two deaths; both of these deaths were treated by the elastic ligature method, making a mortality of twelve and one-half per cent.

In conclusion I wish to express gratefully my indebtedness to Dr. J. F. Roe, with whom I am associated, for his valuable counsel and assistance in this case.

#### DISCUSSION.

**Dr. J. R. Hopkins:** I was pleased to hear Dr. Shere's paper. It was of considerable interest to me although I have not had much experience in a surgical way with gummata of the liver. This paper shows the great importance of an exploratory incision in cases thought to be inoperable, as in cases where carcinoma of the liver is suspected.

**Dr. C. D. Spivak:** I think that the paper of Dr. Shere is a very good one, and I would class it with the papers that were of the greatest interest read here today.

All that we want to know from a paper is something new that we can learn. If there are in the paper three lines which contribute one new fact to our sum total of medical or surgical knowledge, its presentation is justified. I always look for those three or four lines. We are not all great investigators. We are not all capable of bringing each time when we come to the meetings of the Society something entirely new and startling, but what we want is one case, not a hundred cases, but one case well studied, carefully observed, and in the end the

results of the treatment reported. This is of more importance than a hundred cases of surgical procedure, etc., that will give us no absolute addition to our knowledge nor any hints as to treatment or diagnosis. Dr. Shere's paper is in the former category.

## Progress of Medicine

### INTERNAL MEDICINE.

Edited by

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#### SARCOMA OF ILIUM TREATED BY COLEY'S FLUID.

Carless (*Proceedings of the Royal Society of Medicine*, March, 1909) reports a case of inoperable sarcoma of the ilium treated by Coley's fluid. The case was selected because of its being inoperable. It had existed for nearly a year, and was growing steadily worse, the pain being such as to make sleep almost impossible. He administered five minims hypodermically two or three times a week until twenty-two injections were given. The patient was then permitted to rest from the treatment for two or three weeks, and now they have been resumed. Almost every dose gave a reaction, which was manifested principally by sweating and prostration. The sarcomatous mass is not only steadily decreasing, but the general health of the patient is improving, practically all of the pain having disappeared.

O. M. G.

#### MODIFICATION OF THE DOSAGE IN WRIGHT'S MERCURIAL TREATMENT FOR TUBERCULOSIS.

Surgeon Barton Lytle Wright (*United States Naval Medical Bulletin*, Jan., 1910) states that the action of mercury is cumulative and lasting. Further experience with its use has led to slight modification of his former recommendation as to dosage. He begins with a dose not exceeding one-fifteenth of a grain of succinimide,

and increases very slowly until the slightest effect upon the gums is noticed. He then reduces the dose to an amount which will not affect the gums, and continues this dose until thirty treatments have been given, giving it on alternate days. He then resumes treatment with the smaller dose, and administers thirty more doses as before. Where anaemia is marked he adds small doses of arsenic trioxide. This intermittent treatment is continued to the end of one year, at which time it is discontinued for two or three months, then if the patient is found not to be cured, it is given for another year in the same manner.

O. M. G.

#### SENILE PHTHISIS.

Staehelin (*Berliner Klinische Wochenschrift* No. 9, 1910). Two women aged 70 and 50 years came to autopsy with the diagnosis, "Carcinoma." The section revealed absence of malignant disease and pulmonary tuberculosis as the cause of death. According to the clinical history the temperatures had been low, at times subfebrile, very rarely 39°. The cachexia, emaciation, low temperature and lack of appetite suggested malignant disease. Hoppe-Seiler has called attention to the fact that in the pulmonary tuberculosis of the old the destructive changes are not striking, that there is active connective tissue formation and that usually the uninvolved tissue is more or less emphysematous, and consequently the physical signs more or less obscured; the signs of dullness less intense; the respiratory murmur scarcely, if at all, changed; rales rare; cough not troublesome, and very little sputum, and often this is swallowed. Staehelin suggests the following "rules" that should be observed in examining these patients: 1. In all chronic diseases of old people running a febrile or subfebrile course the possibility of pulmonary

tuberculosis should be kept in mind. 2. If there is "lagging" of one-half of the chest other signs of tuberculosis should be carefully sought for. 3. The percussion stroke should be light, the finger lightly placed. 4. When auscultating the patient should be asked to cough and then breathe as deeply as possible. 5. If the physical examination does not give sufficient data to establish the diagnosis, order an X-ray examination. 6. The sputum should be examined many times before deciding that bacilli are not present.

W. J. B.

and respiration remaining the same. Fourteen hours after the third injection, temperature was again 104.3, and shortly after this reached 105.2, then began to fall, reaching 100.8 ten hours from the fourth and last injection, which was forty-seven hours from the first injection. For twenty-four hours it remained between 100 and 101, then dropped below normal, and there was gradual diminution of all symptoms. Nine days later all symptoms had cleared up, except a marked weakness of the left leg.

O. M. G.

**PNEUMOCOCCUS VACCINE IN A CASE OF MENINGITIS FOLLOWING CAPILLARY BRONCHITIS.**

J. Stewart Morris (*Bos. Med. & Surg. Jour.*, Apr. 21, 1910) reports a case of a boy seven years of age who suffered from an attack of capillary bronchitis of moderate severity. After five days, characteristic meningeal symptoms developed, followed finally by coma, and the condition was generally desperate, so much so, that it was considered practically certain the boy could not live twenty-four hours. As last resort, a pneumococcus vaccine was administered, giving an initial dose of eight c. c., fifteen times greater than recommended. In ten hours the temperature fell to 101, the respiration from 44 to 24, but the pulse remained about the same. During the following five hours, temperature rose to 104.6, at which time another injection of 2 c. c. with  $\frac{1}{8}$  grain of cocaine was given. In four hours symptoms of collapse began to manifest themselves, which, however, soon disappeared after the administration of another  $\frac{1}{8}$  grain of cocaine hypodermically, whiskey by mouth, and heat to the extremities. The temperature eight hours after the second injection was 103.8; at this time 2 c. c. with  $\frac{1}{8}$  grain of cocaine was given. Eight hours later, temperature fell to 101, pulse

**THE TREATMENT OF ACUTE DYSENTERY BY INTESTINAL IRRIGATION WITH A 5 PER CENT SOLUTION OF SILVER NITRATE.**

Henry F. Hewes (*Bos. Med. and Surg. Jour.*, Apr. 21, 1910) reports a series of ten cases of acute bacillary dysentery treated by this method. He frankly states that there is nothing new in the treatment, excepting the strength of the solution which he uses, and the emphasis which he lays on its early use. He quotes Shiga to the effect that the lesions, in the great majority of cases, if not in all, are located in and limited to the rectum and sigmoid flexure; in the earliest stage of the disease, and that it is a process of extension upward as the disease progresses. He admits that the disease is generally mild and self-limited. The mild cases generally run their course in from eight to twelve days, but, as every practitioner knows, there is a considerable percentage of cases which tend to become subacute or possibly chronic. The effect of the treatment, so far, has been to bring all cases treated early by this method within the limit of time of mild cases. While treating ten cases, in which mucus and pus entirely disappeared from the stools in from eight to fourteen days, he treated another series of four apparently identical cases in which the mucus and

pus disappeared on the twenty-fifth twenty-seventh, ninth and fourteenth days respectively. He found very little influence in cases in which it was not used early.

The details of his treatments are as follows: When the case is first seen, a dose of magnesium sulphate is given, and as soon as the drug has acted thoroughly, the silver nitrate is given by inserting the rectal tube from eight to twelve inches, instilling a pint or more of the 5% solution of silver nitrate. The injection is retained a half hour if possible, and is then followed by a rectal irrigation of normal salt solution after each movement during the course of the treatment. The second injection of silver nitrate is, as a rule, given after a period of two days has elapsed.

O. M. G.

#### SURGERY.

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#### REMOTE RESULTS OF THE REPLANTATION OF THE KIDNEY AND SPLEEN.

Alexis Carrel (*Jour. of Exper. Med. for the Rockefeller Inst.*, Vol. 12, No. 2), says the grafting of a kidney or a spleen has become an easy and safe operation, and that, surgically, the graft of organs may be considered as having been solved. Biologically, however, no conclusion has been reached, because the interactions of the host and of its new organ are practically unknown. He removed the left kidney from a dog and perfused it with Locke's solution. He then replanted it after an interruption of fifty minutes, and found that the circulation had become re-established. Fifteen days later the right kidney was removed, yet the animal has remained in perfect health to the present time, about twenty-three months after the operation. In four other experiments

three successful results were obtained, and the replanted organs and vessels were found perfectly normal, it being hardly possible to detect the line of anastomosis. Six dogs whose left kidneys were replaced seven months ago by left kidneys extirpated from other dogs, are living and in good health. Those dogs will be used next year to determine the practical value of the transplantation of organs.

H. M. C.

#### THE FUNCTIONS OF THE PITUITARY BODY.

Harvey Cushing (*American Journal of the Medical Sciences*, April, 1910), gives a very thorough account of the latest experimental work in solving the functions of the Pituitary body. The methods of determining its use he classifies as follows: (1) By feeding or implanting the gland causing a hypersecretion. (2) Causing a lowered secretion by total or partial destruction or extirpation. (3) By observing the alterations in its histological appearance and activity which follow the removal or injury of one or the other of the allied or interrelated glandular structures. (4) By noting the changes which take place during disease or of certain unusual physiological states, such as pregnancy, hibernation, puberty and the menopause.

Cushing operated on dogs—dividing his operations into three classes. (1) Removal of the posterior lobe alone. (2) Partial removal of the anterior in addition to the posterior lobe. (3) Total or fractional extirpation of the anterior lobe alone. Owing to the persistence of a well developed cleft the posterior lobe in the canine is readily dislocated from the rest of the gland and can be removed as an intact fragment.

On removal of the posterior lobe no marked changes are manifested. When, however, a portion of the anterior lobe is removed also definite nutritional disturb-

ances are observed. So in puppies there is a persistence of infantilism—a lack of sexual development, a tendency to hypotricosis, often a subnormal temperature. In the adult animals it is noticed that they become very fat, there is an atrophy of the external genitals, the tubules of the testes showing a tendency to reversion to the infantile type with loss of spermatozoa, absence of mitosis as well as certain alterations in the interstitial cells of Leydig. Alterations in the anterior lobe which ultimately assume the characteristics of a malignant growth and which in the early stages represents a hypertrophy and hypersecretion, cause akromegaly and gigantism.

Cushing concludes that the pituitary body is a double organ in the sense that the secretion of its anterior and solidly epithelial portion discharges into the blood sinuses, which transverse this part of the gland, whereas the hyaline substance, apparently the product of secretion from the epithelial investment of the posterior lobe, enters the cerebro-spinal space by way of channels in the Pars Nervosa.

F. W. B.

#### GYNECOLOGY AND OBSTETRICS.

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#### THE INFLUENCE OF A BLOODLESS CONDITION OF THE UTERUS IN PROMOTING INVOLUTION.

Longridge (*Brit. Med. Jour.*, Nov. 20, 1909), finds, upon investigation of 150 primigravida, that as labor approaches term, the blood pressure rises about 20 m.m. of mercury, and that after labor there is a corresponding drop, leaving, however, considerable pressure in the circulation.

There must be some provision to prevent hemorrhage following labor, other

than mere compression of the vessels, for it would seem that blood forced into the uterine wall at a pressure of 100 m.m. of mercury would open up the vessels held only by the elasticity of the uterine muscles. Longridge believes the hemorrhage to be overcome by the fact that when the uterus sinks into the pelvis, the uterine arteries are shortened two or three times, producing numerous twists and kinks which control the flow of blood. Distension of the bladder, or anything which prevents the descent of the uterus favors the occurrence of hemorrhage.

The uterus is practically anemic after contraction, and so is not continually flushed with an alkaline blood stream. By autolysis the healthy uterus loses one-half its weight during the first week of the puerperium, and as autolysis of animal tissue takes place more rapidly in an acid than in an alkaline medium, the author has undertaken observations on the puerperal uterus to determine if the lack of alkalinity may not be the chief factor concerned in its involution. The patients were examined for nitrogenous waste, and the urine for creatinin, a marked rise was found at the end of the first week. This he attributed to the retention of sarcolactic acid. Evidently the uterine muscle was undergoing rapid autolysis. A case reported by Whitehead in the *Brit. Med. Jour.*, Oct. 12, 1872, is referred to, in which the patient who had had a postpartum hemorrhage, and was very anaemic, did not have an ordinary lochia, but a watery, brownish fluid. Menstruation never returned, and on examination it was found that the uterus had completely disappeared. This he attributed to the anaemia, acid condition of the uterus, and absence of alkaline blood.

Clinical observations show patients who are free from lochia with the exception of a slight bloody discharge around the fifth or sixth day, occurring probably when

circulation is re-established. In warm-blooded animals involution is not accompanied by any lochial discharge.

C. B. I.

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**THE FATTY FASCIAL FLAP IN PLASTIC AND OTHER OPERATIONS ON THE PELVIS OF THE KIDNEY.**

Wm. J. Mayo (*Surgery, Gynecology and Obstetrics*, April, 1910), states that the fine-grained fat lying in the fascia, which is closely attached to the kidney, especially about the sinus and pelvis (inner layer of fatty capsule), is very valuable as a covering after operations upon the pelvis of the kidney. The method of utilizing this flap has been employed at St. Mary's Hospital for the last three years, and in a considerable number of cases in which it has been used to cover the line of sutures in the kidney pelvis, even when suture coaptation was imperfect, there has been no leakage of urine.

The hospital records show 69 operations for the removal of kidney stones, performed during the years 1907, 1908, 1909, and in all of which the stones were confined to the pelvis of the kidney, pelviotomy was done, and the suture line covered with the fatty flap. Rapid convalescence without urinary leakage was in marked contrast to the earlier experience, in which provision for leakage was usually necessary. The certainty of union without the necessity of kidney drainage or the danger of secondary hemorrhage has enabled the Mayos to substitute pelviotomy for nephrolithotomy as a method of operation for stone in the pelvis in nearly all cases.

The fatty capsule surrounding the pelvis is not removed, but an incision made directly through it as a part of the wall of the pelvis. After removal of the stone, the pelvis of the kidney is sutured with as perfect coaptation as possible. In one instance the pelvis was detached in three-

fourths of its extent from the kidney sinus, during the removal of a great number of stones, nephrectomy seemed to be necessary, but the pelvis was sutured back to its position with cat gut sutures, taking in the kidney substance, and the suture line covered with the fatty fascial flaps, primary union followed.

It may be seen that the line of opposition is imperfect, allowing leakage of urine. But the covering over of these sutures with the fatty capsule will prevent this and allows ready healing. In using this flap, it is not necessary to suture it closely, but simply to place it over the point to be protected and hold in place with two or three cat gut sutures applied in such a manner as to keep the parts in apposition.

C. B. I.

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**RECENT ADVANCE IN THE TREATMENT OF NEPHROLITHIASIS.**

Daniel N. Eisendrath (*Surgery, Gynecology and Obstetrics*, April, 1910), writes that the marked improvement in the operative treatment of renal and ureteral calculi is due, in no small measure, to the general employment of more refined methods of diagnosis. The introduction of the compression apparatus by Albers Schönb erg has caused rapid strides in the advancement of radiography of the urinary organs. Both kidneys and both ureters should be included in every picture. Bilateral calculi are of quite common occurrence. Watson, in 231 cases belonging to Leguen, Albarran, Israel, Morris and Kummell, found bi-lateral calculi in 30 per cent. The author has collected 29 further cases from the literature, including three which occurred at the Michael Reese Hospital during the past year. In many of these cases pain has been principally unilateral, or occasionally shifted from one side to the other.

Recent advance in surgical anatomy of

the kidney has been made as regards abnormalities of form and development, and the position of the kidney, recognition of solitary kidney, horse-shoe or fused kidney, lack of development of one kidney or hyperplasia and dystopia or congenital displacements of the kidney. Very important, too, is the knowledge of accessory renal arteries. Bleeding from which, at the time of operation may be very annoying or even cause fatal hemorrhage. The author and Dr. D. C. Strauss are at present engaged in the observation of such anomalies.

The type of renal pelvis is of importance. There are two main classes: (a) The ampullary or large sac which occupies the entire hylum without division into primary tubes, and (b) the ramifying type which is more common and may be of the bifid or trifid variety.

The question of a choice of operation for renal callus is discussed. Eisendrath states in choosing between the conservative operations, nephrotomy or pyelotomy and the radical operation; nephrectomy, the question can only be answered after one has obtained, through ureteral catheterization, the relative functional capacity of the kidney. Whether pyelotomy or nephrotomy shall be performed depends upon (a) the condition of the urine of the kidney; (b) upon the location of the calculus, and (c) the type of pelvis.

Nephrotomy is always indicated in infected cases, if the pelvis is small, entirely intra-renal, and is of the bifid or trifid type; pyelotomy is almost impossible, unless the calculus lies close to the ureter. Where there are multiple calculi scattered through the kidney or a branched calculus is present, nephrotomy is called for. When the stone is close to the ureter, pyelotomy is to be preferred. In doing a pyelotomy, an incision is made through the posterior aspect of the pelvis, as here one avoids all vessels excepting the small

retro-pelvic artery. Urinary fistula following this operation is very rare, providing there is no infection.

The question arises in bi-lateral calculi whether to operate in one or two sittings. The majority of surgeons prefer the latter. There is, however, one danger, namely, that calculus and anuria may result from blocking of the opposite ureter.

C. B. I.

#### EAR, NOSE AND THROAT.

Edited by

Wm. C. Bane, M. D.,

Professor of Otology, Denver and Gross College of Medicine.

C. E. Cooper, M. D.,  
Denver, Colo.

#### SOME OBSERVATIONS UPON THE REMOVAL OF THE MIDDLE TURBINATED BODY.

J. J. Kyle (*The Journal of Ophthalmology and Oto-Laryngology*, April, '10), regards the longevity of disease of the cells as being influenced by the size and form of the cells as well as the extraneous conditions. "A long-continued inflammation in the cells has a like tendency to sclerosis as is observed in inflammation of the mastoid process." He is of the opinion that the removal of a sclerosed middle turbinated body is attended with greater danger than the removal of a soft, pliable turbinate, even though the latter be the site of suppurative disease. Several polypi about the middle turbinal indicate supuration in the ethmoid. Removal of diseased middle turbinals favors normal atmospheric pressure in the nose, allows of free drainage and exposure of the accessory cells and ostia.

The author favors removal of the whole rather than part of the bone. He prefers the scissors for cutting off the mass. Packing of the cavity to control bleeding is not favored, but when it is necessary he favors irrigation with a solution of adrenalin, Dobell's solution and saturated boric acid solution for several hours. Crust formation should be removed under illumination. Office tubinectomy is not favored. Patient is kept quiet in bed for one or two days.

W. C. B.



**DERMATOLOGY.**

Edited by  
A. J. Markley, M. D.,  
Denver, Colo.

**SKIN TUBERCULOSIS IN COAL MINERS.**

Fabry (Münich Med. Woch. No. 35, 1909) describes a wart like growth occurring in coal miners, localized chiefly on the fingers, the backs of the hands and on the forearms. It corresponds clinically to the Tuberculosis Verrucosa of Riehl and Paltauf but is anatomically distinguished from the latter by the absence of the characteristic tubercle formation and giant cells.

Its relation to tuberculosis is proven by the reaction to tuberculin and by the simultaneous occurrence of other evidences of serafuloderma. It is to be regarded as a true occupation disease, because of the frequency of small excoriations on the hands and arms, and the ease with which such places are infected by miners, who habitually use the bare hand instead of the handkerchief, in removing the secretions of the mouth and nose.

The mild form of the disease may perhaps be explained by a weakening of the virus, through the presence of large quantities of fine coal dust.

**SYSTEMIC BLASTOMYCOSIS.**

Fontaine (Archiv. Intern. Med. Aug., 1909) reports the case of a 27 year old, previously well patient, attacked by a violent cough, soon followed by a bloody purulent expectorate. The involvement of the lung advanced rapidly, pulse and temperature became irregular. About one month after beginning of internal trouble pustules appeared on the face, which left behind thick crusts, under which was a papillomatous surface with a scro-purulent exudate; in addition there was an extensive papillary eruption. Extending from the face the skin, lesions rapidly involved the whole body. Potassium iodid, Pneumococcic serum and stimulating drugs of many kinds were used without

any benefit and death resulted from toxæmia.

The sputum and the discharge from the pustules contained large number of the Blastomyces. The serum gave a positive Widal reaction. The reporter regards the respiratory tract as the portal of entry for the infection, since the lung showed all the primary symptoms, the subsequent skin symptoms he considers as being of metastatic origin from the visceral disease. This origin of Blastomycosis can be easily confused with tuberculosis and only the microscope can be relied upon for differentiation in doubtful cases.

A. J. M.

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## New Members

G. M. Thorn, Weldona, Morgan Co.  
J. B. Hards, Grand Junction, Mesa Co.  
Geo. Rea, Colorado Springs, El Paso Co.  
Jas. B. Guthrie, Plattville, Weld Co.  
E. W. Gardner, Fort Morgan, Morgan Co.

W. A. Day, Delta, Delta Co.  
N. B. Newcomer, 227 Commonwealth Bldg., Denver.

Elia. Newcomer, 227 Commonwealth Bldg., Denver.

Joseph M. Steiner, Agnes Mem. Sanatorium, Montclair.

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## Constituent Societies

**BOULDER COUNTY.**

The regular meeting of the Boulder County Medical Society was held in Boulder, Thursday evening, March 10, 1910.

The meeting was called to order by the Vice-President, W. A. Jolley. There were no reports of clinical cases, but Dr. Rodas invited the members to be at the hospital the next morning to witness an operation for gonorrhoeal arthyrthritis.

Dr. A. G. Walker, of Marshall, gave the address of the evening, on the diseases of the gall bladder and ducts. In this he covered in a very pleasing manner the diseases common to this region, their diagnosis and differential diagnosis.

On account of the resignation of the President-elect, Dr. Lucy Wood, Dr. W. A. Jolley was elected President and E. B. Trovillion Vice-President.

A letter was read from the American Medical Association concerning the admission of teachers in the medical school who were not registered in the state. The instructions in this letter were to the effect that all these things were decided according to the constitution of each county society. A motion was made, seconded and carried, that a committee of two be appointed to take up the constitution and offer any amendments necessary, and that these be read at the next meeting.

A motion was made and carried that the President and Dr. Rodes constitute this committee.

A letter from the Longmont Medical Society was read, in which they asked that some meetings be placed at such a time that they could come from Longmont and return the same evening. On motion it was decided that quarterly meetings should be held at 4:30 p. m. and a supper afterwards, or at any other time the Longmont Society might suggest.

A letter from Dr. Garwood of Denver was read, suggesting getting Dr. M. E. Preston to deliver his lecture on the fractures of the upper extremities. It was suggested that a committee be appointed to arrange for the annual banquet and program, and that this committee invite Dr. Preston to deliver his lecture at that time if they saw fit.

A motion was carried that a committee be appointed to arrange for the banquet. On motion it was decided to invite the wives of the members to the banquet.

The secretary was instructed to write to Dr. Black concerning arranging for Colorado headquarters at the St. Louis meeting this year.

The President appointed the following committees:

Program—C. Gillaspie, chairman; Dr. E. B. Queal and Dr. C. Giffin.

Entertainment—Dr. C. T. Burnett, chairman; Dr. Lucy Wood and Dr. John Andrew.

Public Health—Dr. F. H. Farrington, chairman; Dr. W. J. White and Dr. V. M. Porter.

A motion to adjourn was carried.

C. GILLASPIE,  
Secretary.

#### BOULDER COUNTY.

The regular meeting of the Boulder County Medical Society was held in the University Dispensary, Boulder, Colorado, April 7, 1910.

In the absence of the secretary, Dr. Clay Giffin acted in his stead.

The meeting was called to order by Dr. W. A. Jolley, President. Clinical cases were reported by Drs. Gilbert, Shively and Farrington.

The minutes of the last meeting were read by the secretary and the minutes approved.

Dr. Gilbert, who had attended the Weld county annual meeting, gave an interesting report of the meeting, especially of Dr. Webb's paper on Tuberculosis in High Altitudes.

The report of the committee on amendments to by-laws was read and approved, amendments to be voted upon in three months.

A bill for \$2.00 was allowed for postal cards and stamps.

Motion made and carried to adjourn.

C. GILLASPIE,  
Secretary.

#### DELTA COUNTY.

The monthly meeting of the Delta County Medical Society was held in Paonia, April 8th, 1910. At this meeting Dr. Day was elected to membership.

A committee consisting of Drs. Hicks, Hazlett and Myers was appointed to arrange for a joint meeting with the Montrose Medical Society.

A paper on "Gastric Analysis" was read by Dr. Day, and one on the "House Fly" by Dr. Hazlett. Both were generally discussed.

After the meeting there was adjournment to the Paonia Hotel for luncheon.

MORRIS R. BOWIE, M. D.,  
Secretary.

#### DENVER COUNTY.

The Medical Society of the City and County of Denver held its regular meeting on April 5th, 1910.

The minutes of the preceding meeting were read and approved.

Dr. E. Jackson submitted a report from the Board of Trustees to the effect that the estimated cost of fitting the new meeting room with chairs and furniture had been estimated at \$1,500.00, that it was recommended that the money be raised by subscription. Recommended that the committee on quarters be increased to fifteen.

Dr. Macomber moved that the report be accepted. Carried.

It was moved that the committee be increased to fifteen. Carried.

Dr. A. J. Markley showed a patient with extensive ulceration of the face and nose which had been treated for lupus vulgaris by the X-ray and other methods, and which had turned out to be epitheloma, the diagnosis having been certified by microscopical findings. He insisted that the diagnosis by the microscope is the only sure way to diagnose these conditions. He exhibited a portion of the diseased tissue. Dr. Lindahl spoke of the differential diagnosis, referring to the fact that the alae-nae were destroyed, which is rare in epitheloma. Dr. W. H. Davis spoke of the importance of early diagnosis, remarking that age is important, that lupus always begins in childhood. In closing, Dr. Markley stated that he had seen cases of epitheloma, which had destroyed the cartilages and even the bones of the nose.

Dr. W. C. Berlin read a paper entitled "Practical Serum Therapy and Immunity," which was discussed by Dr. S. Simon and Dr. W. W. Grant. Dr. Simon spoke of the use of vaccines in acne, and in mixed infection in pulmonary tuberculosis. He thinks that care should be used in the use of Streptococcal vaccines, and advises that the vaccines be made separately so that the dose of one can be in-

creased, without increasing the dose of the other. Dr. Grant spoke of the use of vaccine in cystitis and in pyorrhoea. Dr. Berlin, in closing, urged the use of the clinical index, advised the use of vaccines in intestinal fermentation and stated that he had had no cases of tuberculous adenitis.

Dr. Simon demonstrated the Wasserman reaction in syphilis. This was discussed by Dr. Oettinger.

Dr. Spivak read a paper entitled "Studies in Foeces—Carmin as an Indicator," which was thoroughly enjoyed. The Society then adjourned.

Present, 70.

A regular meeting of the Medical Society of the City and County of Denver was held on April 19, 1910, at 8:15 p. m., at the Academy of Medicine. Dr. C. B. Van Zant in the chair.

The minutes of the preceding meeting were read and approved.

The Board of Censors reported favorably on the names of Drs. E. Neucomer, N. B. Neucomer and J. B. Steiner. Dr. Black moved the names be voted on together; the ballot was taken and the doctors elected.

Dr. T. E. Carmody introduced a resolution to the effect that the Society endorse the bill creating a National Department of Public Health, that the resolution be spread on the minutes of the meeting, and that a copy be sent to the senators and representatives from Colorado. Dr. Black suggested that a personal communication be included in the letter. The vote was then taken on the resolution and carried.

The scientific program then followed: Dr. Stover presented a paper entitled "A Brief View of Leprosy in the Hawaiian Islands," which was illustrated by lantern slides. The paper was thoroughly enjoyed. Dr. W. H. Davis then read a paper entitled "A Brief Report of Cases of Leprosy in the San Lazarus Hospital in Havana." He spoke of the different forms of leprosy and supplemented the remarks of Dr. Stover, so that the subject was fully covered.

Dr. Black moved that a letter of thanks for the privilege of seeing the slides be sent to Dr. J. C. Wayson in Hawaii, and an invitation be extended him to appear before the Society should he ever come to Denver. It was carried. Dr. L. Freeman gave an interesting account of his visit to Molaki and the leper settlement there. Dr. Markley then spoke of the methods of transmission, remarking that a series of experiments lately conducted go to show that the disease cannot be transmitted as a saprophyte through fish, etc.; that the probable means of transmission is through the nasal tract and that the primary lesion is in the nose. The bones and lymphatic system are practically never involved. Dr. Stover spoke of the change of attitude of the people toward giving themselves up to the authorities. Dr. Davis stated the condition to be rare in the British Isles. The Society then adjourned.

E. W. LAZELL, Secretary.

## EL PASO COUNTY.

The regular meeting of the El Paso Medical Society was held at the Antlers Hotel on the evening of April 13, 1910. The meeting was largely attended—it, in fact, being one of the largest meetings that the society has ever held.

After concluding some business of the society Doctors E. L. McKinnie and J. H. Brown showed a series of "Rheumatic Cases." The cases presented were five in number, only one of which was truly rheumatism. All five when coming under the care of these two gentlemen had been dosed with salicylates, and had shown no improvement whatever. The only true rheumatic case was one of acute inflammatory rheumatism, this case presented all the typical symptoms of the disease. The other cases were: One of an infective arthritis, which had evidently resulted from frozen fingers, gangrene having followed and evidently some of the infection having been carried to the shoulder joint. The case showed a recovery with the exception of considerable amount of ankylosis of this joint. One of syphilitic arthritis is improving very rapidly under the use of potassium iodide. Another one of gonorrheal rheumatism; another one of trophic arthritis.

Dr. G. Walter Holden of Denver then read a paper on "Sanatoria and Sanatorium Treatment," illustrating by lantern slides. This collection of pictures showed the development of the Sanatoria throughout the world, beginning with the very earliest as first recommended in Europe, showing the evolution up to the present day type of the open air treatment of tuberculosis. He emphasized that the sanatorium is especially valuable in teaching patients how to care for themselves and protect others from the disease. The paper was unusually interesting and instructive, and was highly enjoyed by all the members present. The paper was discussed by Drs. Swan, Martin, McConnell, Webb, Hanford.

A vote of thanks was extended to Dr. Holden by the society for his kindness in presenting this subject to us.

Dr. F. S. McKay then showed a series of lantern slides depicting the histology of the teeth and the failures in the enamel which are responsible for mottled teeth, as seen so commonly in the Pikes Peak region.

The society then adjourned to the dining room, where the members partook of a Dutch lunch.

L. H. MCKINNIE,  
Secretary.

## LARIMER COUNTY.

The Larimer County Medical Society held its regular meeting April 6th, 1910. Met in the Y. M. C. A. Building. Dr. Rew read a very clear, concise and instructive paper on Face Presentations. The paper was discussed by Drs. Stuver, Taylor, Winslow and Rew. Dr. Stuver reported two cases of congenital malformation of the heart—patent foramen ovale—and also one of "Menstruation in a Baby" three days old. In this case the bloody discharge was preceded by a discharge of very tenacious

mucus. The bloody discharge was bright red in color and looked exactly like menstrual blood.

The Cullom Bill, recently introduced into the United States Senate, to regulate the manufacture, sale, distribution and use of habit-forming drugs was then read and discussed. As the provisions of this bill would discriminate against the physician and interfere with his work in treating his patients, the following resolutions were presented and unanimously adopted, viz.:

Whereas, A Bill, entitled, "A Bill to Regulate the Manufacture and Sale of Habit-Forming Drugs," has recently been introduced into the United States Senate by the Hon. Shelby M. Cullom of Illinois, and

Whereas, As said bill discriminates against physicians and if enacted into law and enforced would greatly hamper them, especially those in remote rural districts, in their work of relieving suffering, and in many cases endanger the comfort and lives of their patients, therefore, be it

Resolved, By the Larimer County Medical Society, in regular meeting assembled, that we hereby protest against the passage of this bill in its present form and request the author of the bill and the members of the United States Senate to amend it so that the final clause of section 4 will read as follows, viz.:

"But that nothing contained in this section shall apply to licensed practitioners actively engaged in medical practice, to veterinarians actually engaged in the practice of their profession, to public hospitals or to scientific or public institutions, and be it further

Resolved, That copies of these resolutions be sent to our United States Senators and Members in Congress and they be requested to use every honorable means to have the bill amended as above indicated."

No other business appearing, the society adjourned to meet the first Wednesday in September, 1910.

E. STUVER.  
Secretary.

#### MESA COUNTY.

Regular meeting of the Mesa County Medical Society was held Tuesday evening, April 26, at the Y. M. C. A. building.

Dr. Collins read the paper of the evening upon "Mountain Fever." This paper was fully discussed by those present.

Dr. B. F. Miller presented the clinical case.  
CARL W. PLUMB,  
Secretary.

#### WELD COUNTY.

In its special meeting and banquet following, the Weld County Medical Society scored a success not equaled in its history.

Promptly at five o'clock the Chamber room of the City Hall was well filled. This being an open meeting, there were many citizens present not members of the profession. The program was opened by a discussion of tuberculosis by Dr. Gerald B. Webb of Colorado Springs. While his lecture was scientific and somewhat

technical, it was made so clear by the aid of charts that even the non-professional could readily understand and appreciate the tireless effort spent in obtaining the data presented. It is to be regretted that there were not more present to hear what he had to say on this subject, which is of such vital importance. This importance, too, must grow from year to year as the facts presented by Dr. Webb become more widely known.

Dr. Webb's investigations have been carried on through examination of the blood, largely of tuberculous individuals. The first important observation made was the power of the lymphocyte to destroy the tubercle bacillus; that this power is exclusive, in that other leucocytes are without wax-absorbing ability. The next important observation was to note the increased ratio of the lymphocyte in persons and in animals living in the higher altitudes over those living in lower planes.

Persons changing residence from the mountainous regions toward sea level have a positive decrease in this ratio, and those coming into the higher region just as positive an increase. With a knowledge of the function of the lymphocytes and their increased number, we have an explanation for the improvement of the tuberculous patient who seeks health in higher altitudes.

Another observation made was that the child has a higher percentage of the lymphocytes than has the adult, which again explains the comparative infrequency of tuberculosis found in children—particularly of the pulmonary type.

The doctor called attention to the importance of delicate children and children having a suspicious or bad inheritance remaining in the vicinity of mountain ranges. The fresh facts presented have awakened a greatly increased interest in the minds of all present.

The banquet which immediately followed the meeting was ideal from every standpoint. The menu was equal to the best and the toasts were all strong and while they had rather a serious trend, they were enlivened by many clean and pointed anecdotes and witticisms. Delegates were present from the Denver, Boulder and Fort Collins societies. Almost every town in the county had its representative. Business men and men from other professions in Greeley touched elbows with the doctors around the festive board where were gathered nearly one hundred influential men, thirty-five of whom were physicians.

J. K. MILLER,  
Secretary.

## Other Societies

#### COLORADO OPHTHALMOLOGICAL SOCIETY.

The annual meeting occurred on April 16, 1910, at the office of Dr. E. W. Stevens, who presided. Attendance, 18 members.

Dr. A. C. Magruder presented a man who had received a lacerated wound of the cornea and

iris, with bruising of the lens, the previous August, from the explosion of an oil gauge. Cataract and both anterior and posterior synechia had developed. The eye was quiet.

Dr. E. T. Boyd showed an adult who had made a good recovery from a recent severe plastic iritis, under salicylates and atropin. A few minute, distinct, but scattered points of exudate still remained on Descemet's membrane.

Dr. G. F. Libby showed a man of sixty-three, with opacities of the lens and vitreous, associated with myopia, and reducing vision to 4/30 in each eye. As the patient had appropriate lenses, the only hope of improvement lay in correction of errors of secretion, excretion or nutrition.

Dr. W. C. Bane presented a woman who had been affected by right hemiplegia and sudden loss of vision in the left eye eight months before. Marked neuro-retinitis of both eyes had supervened. The right eye recovered, but not the left. The paralysis gradually disappeared, but partial amnesia still persisted. The left radial pulse had been lost for a short time. A general pigmentation of the optic disk resulted from degenerative changes in the left eye. Mercury by inunction and potassium iodide were faithfully administered, the latter drug being given to the amount of 45 grains t. i. d.

Dr. E. W. Stevens showed an adult with gray atrophy of both optic nerves, and Argyll-Robertson pupils with good knee jerk and station. The vision was 4/30 in the right, 4/60 in the left eye. The diagnosis was posterior spinal sclerosis.

Dr. Stevens presented a man with a sluggish central corneal ulcer, lately associated with marked iritis. Vision was only 4/120. Under atropin, hot applications and leeching the ulcer was healing.

Dr. Stevens also presented a case of steel removed from the vitreous, over a month before, by use of a magnet. The eye was quieting, tension was minus, and the pupil had become obliterated as a result of the injury to the iris by the foreign body.

Discussion was participated in by Drs. Jackson, Black, Bane, Neeper, Hess, Stevens and Sisson.

The report of the secretary for the previous five years showed an increase in membership from 20 to 26 active members, the appearance of the proceedings of the society in four rather than in two medical journals, and that the editors of the Ophthalmic Year Book had noted twenty-one contributions to general ophthalmology by members of this society in 1905, and sixty-three in 1909. The society had also exerted a favorable influence on state legislation affecting the public health, especially in matters pertaining to the care of the eyes.

The election of officers resulted in the choice of Dr. G. F. Libby as secretary, Dr. Melville Black as treasurer, and Dr. E. R. Neeper as chairman of the Executive committee.

GEORGE F. LIBBY,  
Secretary.

## Items

The Kansas Medical Society will hold its forty-fourth annual meeting at Topeka, Kan., on the 4th, 5th and 6th of May.

Huerfano county is organizing a county medical society, and we understand its organization will soon be effected.

The Routt County Medical Society has passed resolutions extending an invitation to the State Medical Society to hold its annual meeting in Steamboat Springs.

The Congress of Physicians recently held at Washington, D. C., had a very large attendance. The following Colorado men were present: L. Freeman, J. N. Hall, E. J. A. Rogers, H. T. Pershing, Henry Sewall, W. A. Jayne, C. A. Powers, Geo. W. Holden, S. Fosdick Jones, H. S. Denison, all of Denver. Will Iwan and C. F. Gardner of Colorado Springs. Hubert Work of Pueblo and James A. Hart formerly of Colorado Springs.

Dr. K. Hanson, of Grand Junction, has recently returned from a month's business and pleasure trip to New York City.

Dr. P. P. Collins, of Grand Junction, left April 31 for his old home in Kentucky to spend several weeks.

Dr. "Jack" Cawkins, of Dragon, Utah, was a visitor in Grand Junction last week.

A son was born to Dr. and Mrs. H. S. Henderson, of Grand Junction, on April 16.

Dr. W. Z. Dahl, from San Francisco, has opened an office in Grand Junction.

During the time Dr. H. S. Denison is in Europe Dr. C. B. Ingraham will assume the duties of editor of Colorado Medicine.

## Books Received

Modern Medicine, Its Theory and Practice, in original contributions by American and foreign authors, edited by William Osler, M. D. Volume VII, Diseases of the Nervous System. Philadelphia and New York. Lea & Febiger. 1910. Pp. 969. Cloth.

## Pamphlets and Reprints

Pathologic Variations and Complications of Appendicitis. By Charles H. Goodrich, M. D., Brooklyn, N. Y. Reprinted from the American Journal of Surgery, March, 1910.

Bulletin of the American Academy of Medicine. Volume X. 1909. Easton, Pa. Eschenbach Printing Co., 1909. Pp. 9.

The Quarterly Bulletin of Northwestern University Medical School. Chicago, March, 1910. Vol. VI, No. 4. Pp. 57.

# COLORADO MEDICINE

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Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions.

Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession will be gratefully acknowledged. The name of the sender should be given.

The journal will be issued on the 15th of each month. All copy must reach the editor not later than the first of the month. Advertisements of proprietary medicines will be accepted provided the preparations advertised have been approved by the council of pharmacy and chemistry of the American Medical Association. Address all communications regarding advertising to

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## Notice

All members of the Colorado State Medical Society are entitled to a copy of this journal each month. Failure to receive the same, and change of address, should be promptly communicated to the editor.

VOL. VII.

DENVER, JUNE, 1910

No. 6

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

### THE COLORADO STATE ASSOCIATION FOR THE PREVENTION AND CONTROL OF TUBERCULOSIS.

Colorado has at last taken a position among the leading states of the Union in the matter of educational work in combating tuberculosis. One of the agencies bringing this to pass is the Colorado State Association for the Prevention and Control of Tuberculosis, having its offices in the State Capitol, Denver, where the importance of its mission has been recognized by Governor Shafroth and the Board of Capitol Managers to the degree that they gladly provide headquarters in the State House and co-operate in every possible manner with the work planned and carried out.

The Association did its first work as the Colorado State Branch of the International Tuberculosis Congress. In connection with that gathering at Washington in 1908, a committee chosen from the several parts of the state busied themselves with securing an adequate exhibit consistent with the importance of Colorado in matters of tuberculosis. A souvenir book of the state was issued and a pamphlet entered in the competition for the best educational leaflet. Colorado secured the gold medal for this leaflet; also a gold medal for equipment; one silver medal for plans, and four awards of honorable mention. As a direct outgrowth of this work the present Association was incorporated on the 31st day of December, 1908, and in November, 1909, commenced an active campaign for the health and safety of Colorado.

Those interested in the work secured traveling exhibit No. 2 from the National

Association, and it was displayed in Pueblo, Colorado Springs and Denver. An Executive Secretary was then secured and the development work of the organization began. The Association became the official representative for the American Red Cross in handling Christmas stamps and during December, about 260,000 of the stickers were sold in the State.

The Colorado Springs Branch was the first local organization formed by authority of the new State Association, and its record has been one of helpfulness to that city and suggestion to others.

Committees were appointed with a personnel of sixty-eight of the most prominent Coloradoans, both in the profession and among the laity.

The work of the Committee on Lectures resulted in three hundred and thirty-nine pulpits in Colorado being occupied either by doctors, ministers or laymen on April twenty-fourth, National Tuberculosis Sunday, and the Committee on Literature prepared and distributed 52,600 pieces of educational matter. The Committee on Lectures also has arranged for addresses on the subject before all the State Teachers' Institutes, and for open-air stereopticon lectures in the parks and school yards of the larger cities of the state. The Committee on Literature also has arranged for the issuance of a monthly magazine, the dominant note of which will be "Encouragement for those who suffer or have suffered from the disease," and of optimism to the well in the matter of preventibility. In addition this Committee has also prepared a suggested outline for public lectures which is sent free upon request of any speaker, together with pamphlets containing valuable data for use in connection with the outline. It has also prepared, and is having printed, suggestions to school teachers regarding the method of presenting pre-

ventive measures with which the campaign is concerned, to children of the schools without emphasizing the disease.

The Committee on Exhibit is at work endeavoring to collect material for a striking exhibit of an educational nature and is conferring with the railroad officials upon the question of the use of a passenger coach for its display and the franking privilege of the car over the lines operating in the state.

The Committee on Camps has secured a five acre tract in Denver upon which to open a model "night and day camp," from which they can recommend to other portions of the state tried methods found practical in this experiment station.

The Committee on Dispensaries is making a careful study of all of the methods of the dispensaries operating in the East, with a view to opening, at different points in Colorado, free dispensaries, where indigent cases may receive treatment and education concerning tuberculosis.

In connection with the camps, dispensaries and the classes, nurses will go into the homes of those discovered to be afflicted, and endeavor to have put into practice the instructions given in these special departments.

The Committee on Classes will endeavor to establish at different points in the state, places where those not requiring treatment in the camps or dispensaries can gather for conference, examinations and instruction, thus creating educational units throughout the entire state, who, while being restored to their health and earning capacity, also become centers of instruction among the people with whom they live.

The Committee on Legislation is busily reviewing the needs of the entire state, comparing local conditions with those existing in the East and drafting model laws to present to the people for reading

and review before the legislature meets, in the hope that the contents will be so well known that their merits will create local demand for enactment.

The Committee on Relief reviews the work of all of the departments, establishes the standard of giving, and endeavors, through its mission of mercy, to enable each special Committee to secure better results for the patients through the release from worry concerning finances of their families.

The Committee on Publicity covers the activities of all Committees and through the medium of its press service, reaching two hundred and fifty papers in the state, acquaints the public with the progress made in the warfare for their health and well being. This Committee also uses every practical means to secure audiences when lectures are given, and notes new treatments and advances made in the battles carried on the world over.

Thus the Association, with its membership of those voluntarily associated for this warfare, works through its interdependent Committees for the protection of Coloradoans and the visitors within her gates.

The membership in the Association, which is but one dollar per year, is a source of income which, of course, is insufficient to meet all the demands growing out of plans so widely inclusive as those being carried forward by the Association, and the Finance Committee endeavors to secure contributions from those interested and able to give for the maintenance of such an important work as this has already proven to be. -

It is a matter of congratulation to the profession that the majority of those interested in the work, who have given of their time and funds, both in its inauguration and operation, have been physicians.

### *SOME SEQUELAE OF PRESENT-DAY OBSTETRICS.*

Despite the fact that within the last twenty-five years the expert has greatly improved the conduct of labor, and anti-sepsis has reduced the material mortality, morbidity has increased and a larger number of women are left with obstetrical sequelae, which renders them, to a certain degree, sufferers for life. Authorities state the reason for this condition lies in the fact that men, because they have less fear of sepsis, proceed to deliver the mother by some obstetrical operation, for which there is not relative indication, or, because, through the pressure from work, are anxious to be through with the case.

Instrumental dilatation of the cervix, and dragging the head through with forceps before the cervix is dilated, as well as rupture of the membranes before complete dilatation, in almost every instance cause tears, which may result in sub-involution, and following this, a permanent retro-position. Polak, of Brooklyn, New York, in 500 consecutive cases, on examination, ten days after labor, found the uterus backward in forty-three; but these same patients, examined between the 4th and 6th week, showed 231 retro-versions, 28 of which could not be corrected.

A tear in the cervix, injury to the soft part, or perineum, is often the starting point of an infection which may result in a fatal puerperal sepsis, parametritis, uterine phlebitis, with subsequent femoral occlusion, sub-involution and retro-version. Metorrhagia is usually the first indication of the presence of a pathological condition, and should require digital examination, at which time it will be necessary to differentiate between retained placenta, sub-involution, retro-version, chorio-epitheloma, post-partum endometritis and uterine polyp.

Cystitis and pyelitis, which so commonly follow a labor, can, in most instances,



be attributed to the attendant. The forceps may be applied before the cervix was dilated and drawn back over the head, so that when traction is made the bladder is compressed between the head and the symphysis pubis. How often an obstetrical operation is done before the operator makes sure that the bladder is empty, and the vesical tissues are traumatised; and then, if bacteria do not gain entrance in some other way, how often they slip in through an error in the technique of catheterization.

The use of the pelvimeter is as necessary in the practice of obstetrics as the stethoscope is to one who examines the chest. That a woman is large does not necessarily mean that her pelvic measurements are normal. A knowledge of this branch and its application to the different obstetrical procedures will lower foetal mortality tremendously and maternal mortality a great deal. The attention to contraction of the pelvic outlet has recently been brought again to our notice by Williams, who explains why some low forceps are so difficult or even impossible, as well as the cause of a certain number of deep perineal tears.

The colpeuryter in the vagina of the primipara will often be the means of avoiding injury to the soft parts by preparing the vagina and vulvo-vaginal orifice, as well as serving to preserve the membranes until the cervix is fully dilated.

Lacerations of the perineum should be repaired immediately after labor, or within the next forty-eight hours, when the cedema has subsided and a closer approximation of the tissues can be made. Much suffering is eliminated if this procedure is carried out in every instance. Cragin states that unless there is severe hemorrhage, the cervix should not be repaired at this time because of the danger of infection.

A word about making examinations during labor.—In a great majority of cases no examinations at all are necessary, and, in most all, one vaginal examination made during the early part of labor will suffice.

The treatment of post-abortion cases is much more lax than the treatment of the puerperium at term. Sub-involution and retro-version are nearly as frequent following abortion as after full term labor. How much can be done in these cases with postural treatment, quantitative douches, ergot, and not too early rising from bed? Many physicians believe that to acknowledge an injury following labor is an indication of poor obstetrics. How much worse is it not to acknowledge them and not give the appropriate care and attention to these complications and so render the woman a sufferer in consequence through life.

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#### *CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.*

Washington, D. C., May 7, 1910.

The Eighth Triennial Congress of American Physicians and Surgeons, composed of fourteen of the principal societies of the United States, has just closed the most interesting and successful meeting of its history.

Washington at this season is most attractive, with the full freshness of early spring foliage; the weather is propitious, being warm and delightful. Approximately twelve hundred members have been in attendance, and they have all left with a deep sense of pleasure and profit, in the meeting of old friends and the quality of the scientific program which has given much food for mature and careful thought.

The Congress is by far the most select gathering of medical men in this country, bringing together the most prominent men of the profession from all quarters,

both the practical and the scientific workers in all departments of medicine.

Many high-class papers were presented on therapy and immunization, and showed the general interest taken in advanced scientific medicine.

Artificial immunization was the topic chosen for the general session, and it was most ably treated by Prof. Hektoen, of Chicago; Dr. F. P. Gay, of Boston, and Dr. T. P. Beebe, of New York, and discussed by Dr. Adams, of Montreal, and Drs. Stengel, Loeb and Anderson. The hall chosen for the session was not adapted to the meeting. Only those in the front of the room could hear and many deeply interested left the room. These papers will no doubt appear in the *Journal of The A. M. A.*

The Committee of the Congress on Program, suggested to the various component societies that they should consider the subject of serum and vaccine therapy in their several meetings, and many adopted the suggestion. If the papers read on the subject can be collected it will form a most valuable collection of monographs on the subject in general medicine and the specialties. Probably the most authoritative and interesting treatment of the subject was given in the meeting of the Association of American Physicians. In the American Surgical Association the principal paper on this subject was read by Dr. Deaver, of Philadelphia.

Mention cannot here be made of the very many notable papers presented in the meetings, and those interested are referred to the reports of the proceedings which will doubtless appear shortly in the medical press.

We cannot, however, refrain from referring to the verbal report given before the Surgical Association by Dr. Alexis Carrel, of the Rockefeller Institute for Medical Research, on experimental surgery of the heart and thoracic aorta. Dr.

Carrel's remarks were illustrated by lantern slides, and the experiments made were so remarkable for their boldness and astonishing success that a very deep and lasting impression, amounting almost to awe, was made upon his hearers, and suggested that a vast and new field for the surgery of the future is being opened up. Dr. Keen, of Philadelphia, took advantage of the occasion to make a direct appeal to the profession to oppose vigorously the efforts of the anti-vivisectionists who would pass laws forbidding animal experimentation, and pointing to the work of Dr. Carrel as an illustration of the prospective value to the human race of such investigations.

Colorado was well represented on the program by four members of our State Medical Society, Drs. Pershing, Sewell, Swan and Powers, while many others were in attendance on the session. Colorado was recognized as being on the map in the designation of Denver as the place of meeting of the American Surgical Association next spring. W. A. JAYNE.

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#### AMERICAN SURGICAL ASSOCIATION.

The American Surgical Association met this year in Washington, as it does every third year, as a component part of the Congress of American Physicians and Surgeons. This is an exclusive body, ranking with the most distinguished foreign surgical societies and recognized by them as representative of American surgery. Its membership, which is limited to 125 active fellows and a number of senior fellows, includes a large majority of the strongest surgeons in the country, who always give to it their best efforts.

A celebrated foreign visitor was Prof. von Eiselsberg of Vienna, an invited guest. He read an elaborate and highly scientific paper in which he attempted to elucidate the best way of approaching the

hypophysis cerebri, one of the most delicate and difficult of all operations. His method, although effective, was heroic, and resulted in considerable cicatricial disfigurement. He was immediately followed by two American surgeons (Halstead, of Chicago, and Mixter, of Boston), who not only proved that the work could be done in a much simpler manner, but each was able to present a patient upon whom he had operated, both being completely cured without scar or deformity. Whereupon von Eiselsberg frankly admitted the brilliancy of the work and stated that in the future he would try the American method, thereby exhibiting the "true sporting spirit," and showing that the surgical tide is turning, as it should, towards America.

There was a long and interesting discussion on the subject of vaccine therapy, unfortunately without arriving at any very definite conclusions. It was quite generally agreed, however, that although the results were doubtful in acute septic infections, nevertheless some benefit was undoubtedly obtained in chronic suppurations and especially in chronic tuberculosis of various kinds. It was strongly emphasized that we should not attempt to make this new therapy take the place of surgery where an operation was ordinarily indicated, but should employ it as an adjunct only.

Great interest was manifested in a joint discussion between the fellows of the American Surgical Association and the American Gynecological Association, regarding the ultimate results to be expected from operations upon neurotic individuals. Some of the speakers contended that there was generally a definite pathologic foundation in these cases, which could often be relieved by operation, but the majority, among whom were William Mayo and Maurice Richardson, agreed

that such cases, in the interests of both surgeon and patient, should be approached with great caution, where a definite lesion could not be demonstrated as the direct cause of the difficulty.

During this discussion an interesting idea was presented regarding the causation of so-called neurotic backaches in women. These were said to arise in many instances from strain of the back muscles and ligaments through faulty positions in standing, due often to forward drooping of the shoulders, or to too large an abdomen or too heavy a gluteal mass. These malpositions are sometimes remediable by training and sometimes by operation, the speaker citing instances in which he had restored the patient's equilibrium by removing large portions of gluteal and abdominal fat, with excellent results.

An astonishing contribution was presented by Carrell, of New York, in which he stated that it had been demonstrated by animal experimentation in the Rockefeller Laboratory that operations could be performed on the ascending aorta, for instance, in a case of aneurism, by short-circuiting the blood through a tube leading from the left ventricle to the descending aorta. Clamps can then be applied between the heart and the vascular lesion and between the latter and the left carotid, the blood backing up, as it were, through the descending aorta into the left carotid and thus supplying the brain.

Next Spring the Association will meet in Denver. This will be the first meeting ever held west of the Mississippi River, except one which took place a number of years ago in San Francisco. This is in the nature of a professional honor to Denver, and there can be no doubt that the physicians and surgeons of Colorado will rise to the occasion.

L. FREEMAN.

## CONGRESS OF AMERICAN PHYSICIANS.

The general meeting in the Arlington Hotel, May 3, devoted to the subject of "Immunity," was of great interest, although the poor acoustic properties of the hall made it difficult for any but those in the front rows to understand the speakers.

The papers by Hektoen, Gay, Beebe and Adami were most satisfactory, and showed that the practical applications of serum diagnosis and serum and vaccine therapy, which have inspired so much hope in the profession, really rest on a broad basis of well observed facts and sound theoretical deductions.

The remarks on the subject of cancer indicated no expectation that a causative germ would be discovered; nevertheless, the possibility of both active and passive immunity to the cancer cells was clearly brought out. Beebe defended at length his claim that animals can be immunized to the specific cells of various organs so that the immune serum will contain specific catalytic poisons for such organs and no others. He thought that Hodenpyl's patient, who spontaneously recovered from cancer, had developed such a cytolytic toxin for the cells of cancer and for no other cells. In his opinion, although the results of treating other cases with the ascitic fluid of this patient were not so good as they first appeared to be, justly increased the hope that a specific remedy would sooner or later be found.

H. T. PERSHING.

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## "THE PHARMACOPOEIAL CONVENTION.

The Convention for the purpose of revising the Eighth Decennial Revision of the U. S. Pharmacopoeia was called to order by the second vice-president, Otto

A. Wall, in the New Willard Hotel, Washington, D. C., May 10, 1910, in the absence of the president, Dr. H. C. Wood, who was critically ill at that time.

It was noteworthy that the states west of the Mississippi river were very poorly represented, the four members from Colorado being the largest delegation from the Western states. This was in striking contrast to those states east of the Alleghenies where an almost full complement was present.

The Colorado delegation consisted of Chas. M. Ford and S. L. Bressler, of the Colorado Pharmacal Association; Dr. E. C. Hill, and Dr. Geo. A. Moleen, of the Colorado State Medical Society.

The medical profession were more interested and better represented than heretofore. The general Committee of Revision, however, is composed of eighty per cent pharmacists.

It is the belief of the writer that this Committee of Revision should not be selected from scientific and technical circles alone, but to respect the widely divergent needs of different parts of this great country. For a list of medicinal substances the Pacific as well as the Atlantic Coast should be consulted if its transcontinental value is to be increased and its recognition by the medical profession made more general.

It was unfortunate that representation of the Western states on the General Revision Committee could not be had in spite of the efforts of those present to place Mr. Ford in this position. The Committee, which is now composed of fifty members, is made up of men representing but a small area of this country, and nine-tenths are from east of the Allegheny Mountains.

Much more importance attaches to the forthcoming revision than preceding ones by reason of its adoption by the U. S. Government. It is believed that the Ninth

Revision will be the greatest book of standards in the world. It, like its predecessor, will be translated into the Spanish language for use in the Spanish American possessions as well as most of the Spanish-American Republics in North and South America.

Changes in the text are not as numerous as was expected. Compound or composite mixtures are discouraged.

Microscopic stains, blood test reagents, etc., are to be incorporated, establishing a standard which will be welcomed.

The election of Dr. H. W. Wiley as president was met with but little opposition. The election of Dr. Geo. H. Simmons on the Board of Trustees is taken to be an effective blow to the interests who have so viciously attacked him.

It is expected that this work will be completed much more promptly than the last. A fact which will be generally appreciated and it can be said without doubt, will be looked for with much more interest by the medical profession than ever before.

GEO. A. MOLEEN.

#### GENERAL PRINCIPLES TO BE FOLLOWED IN REVIEWING THE PHARMACOPOEIA.

The following is an abstract of the recommendation of the Committee of Revision created by the Convention in 1900 for the Ninth Revision of the Pharmacopoeia.

They recommend that the Committee on Revision be authorized to admit into the Pharmacopoeia any medicinal substance of known origin; but no substance or combination of substance shall be introduced if the composition or mode of manufacture thereof be kept secret, or if it be controlled by unlimited proprietary or patent rights. Substances used only for technical purposes should not be admitted.

*Doses.*—The Committee should be instructed to state the average approximate dose for adults and children. The metric system to be used, the equivalent in ordinary weights or measures inserted in parenthesis.

*Nomenclature.* — Recommended that changes in titles of articles at present official be made only for the purpose of insuring greater accuracy, brevity or safety in dispensing and to eliminate therapeutical suggestive title. Official observations of titles should be inserted after the regular title.

*Synonyms.* — Are recommended for more extended use.

*Purity and Strength.*—This should be kept to the highest standard. Allowance for impurities should conform to some standard. Relations with other countries considered so that internations at standards will be promoted.

For the convenience of physicians there should be appended after each article a list of the preparations in which it is used.

*Serums.*—Serums and other biological products, if standardized by the government, may be admitted to the pharmacopoeia. The remainder of the recommendations are of not so much interest to physicians as pharmacists, and will be omitted from this abstract.

#### THE SERUM DIAGNOSIS OF SYPHILIS.\*

Howell T. Pershing, M. D., and Cyrus L. Pershing, M. D., Denver.

If we are really in possession of a reliable clinical test which will show whether syphilis is or is not active, in a given patient, its value, in all lines of medical practice, can hardly be overestimated. We will not attempt even to mention all classes of cases in which such a test is

\*Read before the Colorado State Medical Society, Colorado Springs, September 14, 1909.

desirable, but will call to mind a few of them.

*First*—Cases of grave disease of the brain, spinal cord, liver, eye, nose, intestine or other organ, in which relief is urgently demanded and which may be syphilitic but in which the history and present symptoms leave a serious doubt. True, the rule is to give mercury and iodide, but when we know the disease to be syphilitic we give them more efficiently, and if it is not syphilitic, we lose time, and often do harm.

*Second*—Cases of initial lesion, in which we have heretofore lost time in waiting for the certain indications of the secondary stage.

*Third*—Patients who are apparently well and who have a doubtful history of infection. It may be a tragic mistake to dismiss them without treatment. To allow fear of the disease and of its remote consequences to possess the mind may be still worse. To carry on systematic treatment for years in uncertainty, is scarcely feasible. Thus a man, seeing his brother die of paresis, is reminded that he himself had a doubtful venereal sore twenty years before, of which different physicians gave different opinions. At this date it is impossible to decide from the history and there are no symptoms to which the therapeutic test can be applied. Meanwhile worry and uncertainty alone are efficient causes of disease.

*Fourth*—Patients who are known to have been infected, but who have been well treated, so that we do not know whether the disease is still active or not. Without a decisive test the only safe course is to give mercurial courses at gradually lengthening intervals on a sort of insurance plan. How much more satisfactory, to both patient and physician, to know definitely when the mercury is necessary and when not.

*Fifth*—Cases of tabes and paresis, gen-

uine or only apparent, in which mercury may be urgently needed if syphilis is active, but would otherwise be harmful.

There are three general methods of diagnosis in cases of syphilis, in which the patient's serum is used.

1. The microscopical examination of the spinal fluid for lymphocytosis.

2. The Noguchi butyric acid reaction with either the spinal fluid or the blood serum, and

3. The Wassermann reaction with the blood serum.

In the present paper we propose to briefly discuss the Wassermann reaction as modified by Noguchi.

The Wassermann reaction as applied in cases of syphilis, is a test for the presence of syphilitic antibody in the patient's serum and depends on the phenomena of hemolysis and cytolysis. Hemolysis means the solution of red blood cells by some foreign fluid. This solution sets free the hemoglobin of the red cells, which becomes dispersed through the fluid, giving it a bright, clear red color, while the colorless corpuscles settle to the bottom of the liquid. Water will slowly hemolyze red blood cells and the blood serum of one animal is more or less hemolytic for the red blood cells of other animals. The men who have been working on the problems of immunity to infectious diseases, have found that this hemolytic action, which a serum possesses for foreign cells can be greatly increased. The serum of a rabbit is only mildly hemolytic for human red blood cells and if a large dose of human red blood cells, say 10 cubic centimeters, be injected into the peritoneal cavity of a rabbit, the animal becomes sick and dies. If, however, we start with a small dose, 3 or 4 cubic centimeters at the first injection, and gradually increase the dose to 20 cubic centimeters, making an injection every four or five days, the rabbit will usually live. If about 8 days

after the last injection some of the rabbit's blood is drawn, allowed to clot, and the clear serum drawn off, it is found that a very little of this serum, from 0.001 to 0.01 of a cubic centimeter, will rapidly dissolve one cubic centimeter of a 5% suspension of human red blood cells. We have rendered the rabbit or its blood immune to human red blood cells.

If before mixing the rabbit's immune serum with the red blood cells, we heat the serum at 57° C. for from five minutes to one hour, we find that it has lost its hemolyzing property. It is said to be *inactivated*. When mixed with human red blood cells, the cells maintain their natural condition. If now, however, we take a little serum from a rabbit that has not been immunized by the above method, (fresh serum), and add it to the mixture of corpuscles, and inactivated serum in the test tube, hemolysis rapidly takes place, the immune serum has been reactivated. If instead of fresh rabbit serum, we had used fresh guinea-pig serum or the serum of any one of numerous other animals, to reactivate the immune serum, the result would have been the same.

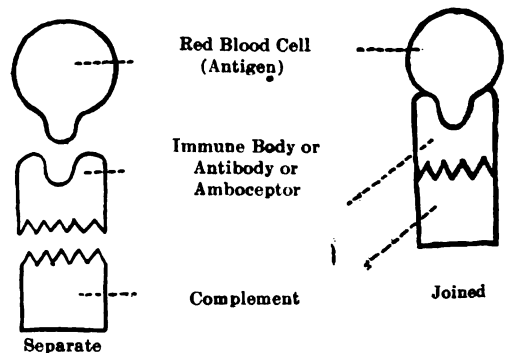
From this result the conclusion has been drawn and confirmed by many other experiments, that immunity is due to two substances in the immune serum. One was formed in the blood of the rabbit in response to the injection of red blood cells and is not destroyed by heating to 57° C. The other was present in the blood previous to immunization, is practically the same in the guinea-pig and other animals as in the rabbit, and is destroyed by heating to 57° C. The first substance is said to be thermo-stable, the second thermo-labile. The first has been called immune body, antibody or amboceptor. The second is called complement or alexin. The blood cells are called antigen. Antigen is a generic term used for any cells or sub-

stances, in response to whose presence, an animal develops immunity to that cell or substance. The immune body is specific, the complement is not. Thus, rabbit serum, immune to human corpuscles, attacks them, but not sheep's corpuscles or any other animal's corpuscles, but, if rendered inactive by heating, it can be reactivated with the fresh serum of other animals.

The above is a brief description of the phenomena of hemolysis. The phenomena of cystolysis are the same except that a cell, such as the cholera vibrio or the typhoid bacillus is used as antigen, produces immunity in the rabbit and in turn is dissolved by the immune body so developed in the rabbit if complement is present.

These reactions can be represented graphically, it being understood that the shapes of the combining factors, as drawn, are not literal but are used figuratively to represent combining affinities.

#### Hemolytic System.

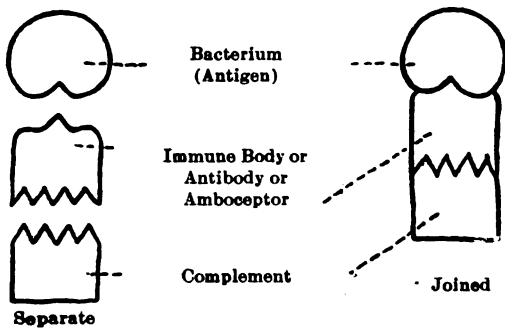


Wassermann, Neisser and Bruck showed by experiments with apes inoculated with syphilis that a syphilitic immune body or antibody was formed in the blood, in response to infection. This syphilitic antibody will combine with antigen and the complement in fresh guinea-pig serum, if the three are brought together, under proper conditions. In these experiments extract of a liver of

a congenital syphilitic foetus containing spirochaetes was used as antigen.

If complement is mixed with immune body alone or with antigen alone, there will be no combination. In other words, it requires the presence of both antigen and antibody to bind complement. In the absence of either it remains free. Antigen and antibody, however, will combine in the absence of complement, and antigen is then said to be sensitized. Sensitized red blood cells are cells combined with their corresponding antibody. Now if to any fluid containing free complement sensitized blood cells are added, the presence of complement is indicated by hemolysis of the red cells and similarly if in such a fluid there is no complement or if it is already combined, then there is no hemolysis of the added red cells.

#### Bacteriolytic System.



Here we have a method of testing for the presence or absence of free complement, directly and thus indirectly for the previous presence of syphilitic antibody. If in this way we can show the presence of syphilitic antibody in a patient's serum we establish the diagnosis of syphilis. If in this way we disprove the presence of syphilitic antibody, we can dismiss the suspicion of an active syphilitic process.

The Wassermann test based on these principles is rather complicated and requires a well equipped laboratory. Dr. Noguchi has simplified the test, the prin-

ciple improvement being the preparation of papers, impregnated with substances to be used as reagents and which if kept dry and cool will maintain their properties for months. It is to be hoped that one of the medical laboratories will take up the preparation of these reagents and furnish them to the profession.

In carrying out the Noguchi modification of the Wassermann test, the following substances are required:

1. Serum to be tested.
2. Antigen (extract of syphilitic liver) either fluid or on paper.
3. Complement (fresh guinea-pig serum, either fluid or on paper).
4. Suspension of human red blood cells, one drop of blood in 4.0 cubic centimeters of 0.9% salt solution.
5. Amboceptor—Serum of a rabbit which has been rendered immune to human red blood cells (either fluid or on paper).

To carry out the test we proceed as follows:

Have a test tube rack holding six small, clean test tubes in pairs. In each of the first pair of tubes we place a drop of the serum to be tested, from a capillary pipette. In each of the second pair we place a drop of known syphilitic serum, and in each of the third pair a drop of normal serum, the last two pairs being controls. We now add to all the tubes 0.04 cubic centimeters of fresh guinea-pig serum, as complement, and one cubic centimeter of a one per cent suspension of human red blood cells. We add to one of each pair a proper quantity of antigen, the reagent having been standardized. We now incubate all the tubes for one-half hour at 37° C. to give the syphilitic antibody, if present, time to unite with antigen and complement. We then add the hemolytic amboceptor, properly standardized to all the tubes and incubate another half hour or until the two



control tubes, containing the normal serum show complete hemolysis, when we can read the results in the other tubes. In the pair of control tubes containing syphilitic serum, the one containing antigen should show no hemolysis, while the one without antigen, should show complete hemolysis or only slight inhibition of hemolysis. In the pair of tubes containing the serum to be tested, the tube containing antigen should show absence of hemolysis if the serum is syphilitic, positive reaction or complete hemolysis, if the serum is normal, negative reaction, while the tube without antigen shows complete hemolysis.

#### SCHEME SHOWING CONTENTS OF TEST TUBES.

(a) Serum to be tested	(a) Known luetic serum	(a) Known normal serum
(b) Complement	(b) Complement	(b) Complement
(c) Suspension of corpuscles	(c) Suspension of corpuscles	(c) Suspension of corpuscles
(a) Serum to be tested	(a) Known luetic serum	(a) Known normal serum
(b) Complement	(b) Complement	(b) Complement
(c) Suspension of corpuscles	(c) Suspension of corpuscles	(c) Suspension of corpuscles
(d) Antigen	(d) Antigen	(d) Antigen

*(After incubation for one-half hour, hemolytic amboceptor is added to all the tubes.)*

If the tube containing serum to be tested and antigen shows partial hemolysis, the reaction is said to be weakly positive and would indicate that the patient had received treatment, or that for some reason the disease was not very active. The Noguchi modification differs from the original Wassermann test also in the use of human red blood cells with the corresponding immune body as an indicator, instead of sheep's cells. Dr. Noguchi claims that this renders the test more delicate and accurate.

According to Wassermann's statistics in April, 1908, up to that time, 1,892

cases of syphilis had been examined, and 1,010 controls, the latter being cases in which syphilis had never been present.

Of the controls not a single case gave a positive result, while of the syphilitic cases of those with manifest symptoms of the disease 90 per cent gave a positive reaction, and in those cases of latent syphilis giving a history of the disease and no symptoms 50 per cent gave a positive reaction.

According to Noguchi the reason the Wassermann test fails in 10 per cent of plainly-syphilitic cases is, that some human serums contain a natural hemolytic amboceptor for sheep's red blood cells. He says: "Many specimens of human serum contain in 0.1 cubic centimeter, which is the quantity usually employed in the test for complement fixation, as many as twenty units of natural anti-sheep amboceptor, while some specimens are entirely devoid of this amboceptor. I found by actual experiment that four units, but not two units of the natural anti-sheep amboceptor, prevented entirely the detection of one unit of syphilitic antibody. When eight units of natural anti-sheep amboceptor and two units of syphilis antibody are brought together, the test remains completely negative. In other words, by the method of Wassermann, the presence of syphilitic anti-body may be missed, although in the absence of natural anti-sheep amboceptor it would be readily detectable."

Noguchi gives the following statistics of 115 cases tested, both by his method and that of Wassermann:

Of 7 cases of primary syphilis the Wassermann test was positive in 5, the Noguchi test in all. Of 27 cases of manifest secondary syphilis, the Wassermann test was positive in 23, the Noguchi method in all 27. Of 12 cases of latent sec-

ondary syphilis the Wassermann test was positive in 6, the Noguchi in 9. Of 18 cases of manifest tertiary syphilis, the two methods agreed and were positive in 17. Of 18 cases of latent tertiary syphilis, the Wassermann test was positive in 11, the Noguchi method in 14.

Of 11 cases of *tabes dorsalis* only 3 were positive with the Wassermann test, and all were positive with the Noguchi method.

Of 28 cases suspected of syphilis or of syphilitic origin, the Wassermann test was positive in 16, the Noguchi in 21.

In carrying out these experiments, cases were met with which were negative to the Wassermann test and weakly or often quite strongly positive to the Noguchi test. In such specimens of human serum, there was found a large amount of natural amboceptor for sheep's corpuscles. No disagreement in results between the two methods was found with strongly positive specimens, i. e., containing more than 8 units of syphilis antibody in 0.1 cubic centimeter, nor with weak specimens devoid of the natural amboceptor.

Landsteiner, Muller and Potzl report the following cases when the Wassermann reaction was of value:

1. Swelling of labium and glands. Reaction negative. Case later proved clinically to be elephantiasis.

2. Phimosis with sclerosis, spirochaetes not found. Reaction positive.

Dr. Howard Fox, of New York, among others, mentions the following: 1. Diagnosis of drug rash had been taking sajodin. Reaction positive. Later spirochaetes were found in an ulceration of the vulva.

2. Diagnosis of military papular syphilide by a well-known dermatologist. Others favored scabies. Reaction negative. Later course showed it was not syphilis.

3. A case of syphilophobia in a physician who had never shown any symptoms of syphilis. Two miscarriages by his wife had made him think he had possibly at some time contracted the disease and infected his wife. The patient's peace of mind was restored by a negative Wassermann reaction.

In our own series of 52 cases, the following doubtful cases were of interest:

1. Clinical diagnosis, cerebro spinal syphilis. Both the patient and husband denied all history of syphilis. Noguchi reaction positive. Diagnosis confirmed.

2. Clinical diagnosis cerebro spinal syphilis of long standing. Noguchi reaction negative. Case afterward went to autopsy. No gross evidence of syphilis. Microscopic examination not yet made.

3. A woman had been told a few weeks before admission to the City Hospital, New York, that a slight rash she had at that time was syphilitic. She did not believe she had the disease, but was anxious to know one way or the other. Wassermann test gave a strong positive reaction.

The test was originally supposed to be specific for syphilis. Wassermann laid considerable stress on the fact that the antigen used was an extract of syphilitic liver. Subsequent investigation showed that an alcoholic extract of normal liver, or even of lecithin, would give the reaction when used as antigen. Further, cases of leprosy give a weak positive reaction.

Landsteiner, Muller and Potzl obtained the reaction in cases of horse syphilis, and the infection with trypanosoma and they express the opinion that the reaction will probably occur in any protozoan infection. A few cases of scarlet fever have reacted positively to the test, but only while the disease was active. These diseases are so little liable to be confounded with syphilis clinically that the above results hardly militate against

the practical value of the test. Though not specific for syphilis as first thought, it is still characteristic of it, and the value of the test as a diagnostic measure, in doubtful cases, seems to be amply confirmed by the opinions of the most competent investigators.

In conclusion, we wish to express our indebtedness to Dr. Noguchi, of the Rockefeller Institute, New York, for practical instruction in his laboratory, to Dr. Milne of the Russell Sage Pathological Institute, City Hospital, New York; Dr. E. E. Smith, of Fordham Medical College, New York; Dr. Dexter, of the Methodist Hospital, Brooklyn, and to Dr. Grey and the Resident Staff of the City Hospital, New York, for aid extended and material furnished.

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#### DISCUSSION.

Dr. H. T. Pershing: My interest in this matter is more a clinical than a laboratory interest. I would like to call attention to the fact that this is one of the many direct applications of pure science to practice. Gengon and Bordet discovered the principle of the deviation of complement. The general scientific principle once being established, Wassermann had the genius to see the practical application of it to the diagnosis of syphilis; and then, he having devised a very difficult and elaborate technique

which would be extremely valuable if we had nothing better, the Japanese practical genius of Noguchi comes in and gives us a great simplification without any sacrifice of accuracy, but on the contrary with a very decided addition of accuracy and reliability to the system. Using sheep corpuscles is not only difficult practically, but it involves the inevitable difficulty that there is some haemolytic power in human serum, for sheep corpuscles, not enough to amount to anything in many patients, and yet sometimes sufficient to give a negative result in a case of syphilis. We believe that the difficulty is entirely obviated by Dr. Noguchi's method of using human blood corpuscles as the indicator. Probably the Noguchi-Wassermann test is more important in neurological practice than in other lines, but I can scarcely imagine any line of medical or surgical practice in which such a test will not be of very great value in the future. I see many cases in which I want to know immediately whether the patient has active syphilis. If he has, I want to treat him. If he has not, I want to relieve his mind and also relieve him of the burden of inunctions carried on over a period of years. We know that the rhinologist will often seriously consider an operation on the nose, but if there is a serious suspicion that the patient is syphilitic he will not operate. Now if we could have a test that within a few hours or even within a few days would give us a reliable indication as to whether that patient is syphilitic it would simplify the rhinologist's way very much. And so in practically all lines of medical practice such a test will be of enormous value. It may be improved beyond the point to which Noguchi has advanced it, and that is desirable because it is still a difficult test to make. It requires trained technique and some laboratory facilities. For example, Noguchi has not yet succeeded in putting his complement on paper to last for any considerable time. So the killing of a guinea pig is still necessary for each day's work.

### THE SURGICAL TREATMENT OF EMPYEMA THORACIS.\*

By C. E. TENNANT, M. D.  
 Denver, Colo.

While the surgical possibilities in the thorax have been increased during the recent experimental period, and especially since the introduction of the Sauerbruch negative pressure cabinet (1), the results attained in pulmonary work have not as yet proven altogether satisfactory. Although the writer firmly believes that successful pulmonary surgery will be one of the triumphs of the near future, he also

\*Read before the Colorado State Medical Society, Colorado Springs, September 14, 1909.

believes the infections limited to the pleural space have not yet yielded to the old and well-tried methods such results as we have a right to expect.

That so many of our cases of empyema thoracis should require extensive rib resections, with its prolonged disability, or that we should have the protracted sinuses, suggest the probability that we may not yet be applying the proper early treatment to our cases. We seldom meet with such difficulties in the abdominal cavity, and we should expect to secure equally favorable results in the thoracic cavity.

Murphy (2) has recently recommended and systematically used in all his cases of post-pneumonic empyema (in which there is no pulmonary gangrene, abscess, nor bronchial communication) a method of simple aspiration of the purulent effusion, and, with the same needle still in place, introducing one or two ounces of a twenty-four-hour-old two per cent. solution of formalin in glycerin. This treatment is usually repeated every two or four weeks, until the fluid becomes sero-sanguinolent and is later absorbed. He claims for his treatment the speedy cure of the majority of early cases of empyema.

It would seem, however, quite improbable that by this method the entire collection of pus could be removed. Then, too, one is not always certain that the fluid is circumscribed in the pleural space, for inaccessible patches of purulent material may be left well out of reach of the aspirating needle and its hygroscopic solution. While these last possibilities stamp this method as not altogether a good surgical procedure, the general principle of the treatment is sound, since the normal intrathoracic atmosphere pressure difference remains undisturbed.

Various suction devices have been suggested and used for many years, all with the idea of an early lung expansion; notably among these is the method of Wel-

ler Van Hook (3), which is a stationary vacuum chamber maintained by an ingenious syphon device; this chamber being attached by a long rubber tube to the drainage tube, and the latter inserted into the thoracic incision made by the excision of a portion of one or more ribs. The long rubber tube connection makes it possible for the patient to move about the room with considerable freedom.

Bryant (4) has recently advocated the attachment of a deflated elastic rubber bulb such as the Pulitzer bag, this to be attached directly to the drainage tube which is fairly well sealed in place by rubber sheeting and emptied of its contents when fully expanded. Brewer (5) refers to the use of the glass cup connected to a collapsable rubber bulb, such as is more recently known as the Bier Hyperaemia Device.

In each of these methods, with the exception of the latter, the flaw in the technique is the use of the drainage tube left in the cavity for so long a time, this being one of the strong factors in the production of the persistent sinus. The same criticism may be made of the writer's air check device reported in the *Journal of the American Medical Association*, November 16, 1907 (6).

Recent experimental work in the thorax with the negative (7) or positive pressure apparatus, and also without this device, successfully demonstrates the possibility of introthoracic work, providing the lung does not collapse, or in the event that it should, the possibility of its early restoration to a normal degree of expansion. This simple principle applied to the treatment of purulent accumulations in the pleural cavity seems to be the secret of success in effectually shortening the convalescent period in the early cases of empyema following pneumonia. To secure this expansion with a foreign body, such as a drainage tube, inserted through a

wound into the pleural cavity, seems to the writer an utter impossibility. Then, too, the longer the period of delay in the recovery of these cases, the greater becomes the thickening and contraction of the pulmonary pleura, and when this organized fibrous covering has formed about the lung, it is too late to undertake anything short of an extensive thoracoplasty.

As has already been suggested, to secure an early successful pulmonary expansion, either of two now well-known methods may be employed; that of positive pressure by forcible introduction of air into the bronchial tube's air cells, or by the exhaustion of a certain amount of air from an enclosed and air-tight compartment in which the thoracic cavity is placed, with the respiratory passages exposed to the natural atmospheric pressure.

In either event, it is naturally implied that there must be a direct opening into the pleural cavity. Where there is a direct communication with a bronchus, however, pulmonary expansion by this means is not so readily obtained, although in empyema after the removal of the hydrostatic pressure of the purulent fluid within the cavity, this complication often quickly disappears.

While the radical operative methods of free-rib re-section sometimes used in the early history of these cases should be mentioned only to be condemned, still the early adoption of free and effective drainage of the pus cavity is more likely to secure the early reduction of the pleural hydrostatic pressure, and the sequent pulmonary expansion. To secure this, a portal of reasonable size and stability must early be obtained, and is best secured by the partial sub-periosteal single rib resection. This method makes possible the early restoration of the bony framework of the chest, which in children is an especially important feature for their future development.

The site selected for the incision should

be a little below the middle of the largest area of flatness, regardless of other landmarks. Even in the most desperate cases, with the patient in a sitting posture, and the weight of the upper extremity so distributed as to leave the sound side of the chest free for the necessarily increased respiratory effort, a light anaesthetic may be safely given, and an opening quickly made. The finger should then be repadly passed about the pleural space to free all circumscribed areas or encapsulations of pus, and then two or three large fenestrated drainage tubes should be so placed as to reach every pocket. Where the writer is in doubt as to having reached all these pockets, an ordinary uterine probe is introduced and swept around between the two pleura, quickly securing the desired results; and a rubber tube in the jaws of the long uterine forcep placed well down in the depth of this newly opened space insures effective drainage from this point.

For the first five days there is no effort to remove these drainage tubes, nor to secure lung expansion; but a strong suction syringe is applied to the mouth of each tube several times a day, to withdraw the plugs of coagulated serum usually found in the early history of these cases. This is not so necessary where the empyemas are of longer standing and nothing but pus is found in the dressings.

If the tubes have been well placed and are large and have been kept free from fibrin plugs, it is usually possible to remove them on the fifth or sixth day. As soon as this is done, the time for the application of methods for lung expansion has arrived. If there is no direct communication with a bronchus, the application of the hyperaemic cup completely covering the opening, and kept in place for a half hour or more, combined with forcible expiratory effort by the patient, rap-

idly expands the damaged lung and drains the cavity.

In case the temperature rises and a new focus occurs after the removal of the tubes, the writer has been in the habit of carefully inserting a long blunt probe with a curved extremity, which curve should conform to the contour of the chest wall. This probe carefully directed down to the new focus and the two pleura separated, followed by application of the suction cup, has soon drained and closed this space.

When necessary, one may strap the hyperaemic cup in place over the opening and maintain a constant negative thoracic pressure, the patient being able to manipulate the bulb when necessary to increase the vacuum. It is surprising to see how quickly the incision closes under this treatment, being in the writer's experience not longer than seventeen days. In fact, in order that one may be absolutely sure that there is no pus remaining, it is sometimes necessary to separate the walls of the drainage site for several days prior to allowing it to permanently close. Where a persistent sinus and small cavity remains Ochsner (8) recommends the injection of Beck's vasaline bismuth sub-carbonate paste into the sinus opening.

In concluding this brief article, the writer desires to especially emphasize three points in the treatment of empyema thoracis:

*First*—The early attainment of an opening so located as to secure a large and free drainage, followed by the introduction of fenestrated tubes of sufficient calibre to quickly and effectually drain the cavity.

*Second*—The removal of these tubes at the earliest possible moment, after they have done their work; and,

*Third*—The application of the Bier hyperaemic cup to drain the cavity after the tubes have been removed; this treat-

ment to be continued until the lung is well expanded and the parietal pleura permanently closed.

#### DISCUSSION.

Dr. Charles Fisher Andrew, Longmont: Mr. President, in opening the discussion on this paper, it seems to me that the keynote is the rapid and free drainage advised in the doctor's paper, as it is with any other abscess; and if the doctor's use of the Bierhyperaemic cup encourages this, of course it is to be highly recommended. The thought that strikes me in the paper particularly is the breaking up of the adhesions in these cases and the plan which he recommends I heartily endorse, unless your abscess is perfectly circumscribed. I find that my greatest trouble in treating these cases has been to find patience to treat the long-continued discharge of pus coming from wounds of the pleural cavity. Placing our drainage tubes down near enough the diaphragm is of great importance. Where I used to make one incision I now make several between the ribs, unless they are too close, so that I cannot get a good sized tube in easily. If we might have some sort of an opening in the hyperaemic cup which he recommends whereby we might get a good aspirating syringe on the end of these tubes we could empty the cavity so that we would not have to do these dressings so frequently. I believe it would be a good scheme, because I cannot imagine anything so unsatisfactory or discouraging to the average doctor as to have to dress an empyemic wound two or three times a day. I believe, with Dr. Tennant, that there is a great deal of future surgery for the chest. We all cannot afford Sauerbrück's negative pressure cabinets around our offices, although some more simple appliance of minor expense should be made whereby we could enter the pleural cavity under a negative pressure. We have had under consideration of late a plan that is hard for me to describe—I wish I had a drawing of it with me—whereby we believe we can work, after making our incision, our resection of the rib down to the costal pleura, by strapping some hyperaemic appliance over the wound and working with sterile gloves through openings in the hyperaemic cup, make our puncture through the costal pleura under negative pressure, retaining expansion and prevent a good deal of collapse of the lungs in that way. Another thing, I believe that we rely too much upon the physical diagnosis in the locating of our empyemic cases. We have all been misled more or less by physical diagnosis in these cases. Therefore, we are using gradually now-a-days the Roentgen ray. Those of you who have been reading Dr. Carl Beck's book on this line of work will know that he strongly recommends the use of the screen in making these diagnoses upon the chest, so that we can see the organs in motion and locate our empyemic area. We can make a positive diagnosis with the use of the screen in all cases of foreign bodies, and gangrenous lungs and broncho-actinomycosis.

I think another important point in the treatment of empyema is the use of the trochar in

finding out the character of pus you have to deal with. We know that two-thirds of the cases of empyema in children come as the result of pneumonia, and that at least three-fourths of our cases in adults have streptococcic infection. For empyemias following tuberculosis, I do not advocate the operative procedure.

I agree with the doctor in reference to the pleural cavity. He states that we should get as good results in our surgery there as we do in the abdomen—looking back to the embryology of the pleura we find it has the same origin as the peritoneal cavity. Really we have not a pleural cavity, strictly speaking. It is more a large lymph space connecting with fine stomata the lymphatic and the general system.

I cannot believe that the Murphy system of using formalin is a good treatment in these cases. I do not believe a man is justified in injecting any chemical medicinal or any irritant substance in the pleural space any more than he is in the peritoneal space. I believe in keeping the opening just as long as we can, if we have any reason to believe we are going to have any trouble back of it. We use the Wolff bottles for the expansion of the lungs after the removal of the tube.

I hope that I have brought out a few points that will bring on a good, rapid discussion of this paper, because the paper is worthy of it.

Dr. Leonard Freeman, Denver: I want to say a word upon a certain aspect of this difficulty. Dr. Tennant has given us a very excellent treatment for the acute, recent cases of empyema, but there are a certain number of cases, which we are always meeting, that have gone beyond this stage, where no form of treatment for the acute cases will answer the purpose. There is a large suppurative cavity with a much thickened pleura. In order to fill up this hole, the chest wall must retract, the diaphragm must come upwards, the lungs must expand, the mediastinum must come over towards that side, or all these things must occur together. In some instances, with children, this occurs. In adults, there is always an attempt at this, but it seldom occurs. An opening always exists in these old cases, which has been made to let out pus, and through this opening is continual drainage of pus, which must result in amyloid degeneration in the end. It is a very important question as to what is to be done with these old cases. We may try an Estlander operation, taking out a number of ribs, and in a certain proportion of cases this will answer. But there are other cases in which the pleura is too thick for the chest to collapse, and in these cases we have to do either a decortication of the lung according to Delorme and Fowler, (the removal of the pleural covering from the lung, necessitating a trap-door opening in the chest), or we have to do a scarification of the pleura, according to Ransohoff (in which he makes various cuts crosswise through the pleura, hoping the lung will expand afterwards), or we have to do a Schede operation (which means a removal of the entire side of the chest). The decortication of the lung has never become popular. It is a tremendous operation in which the side of the chest is temporarily lifted up, and it is un-

certain in its effects. The scarification operation of Ransohoff has never been done to any extent except by Ransohoff himself, and it is quite problematical whether the lung would expand successfully. So we have left to us the Schede operation, one of the most tremendous operations in surgery, in which a large skin flap is turned up from the side of the chest and the entire side of the chest removed—the ribs, the pleura, and the intercostal muscles. I have operated upon three cases in this way. The operation is done as quickly as possible, but nevertheless the shock is tremendous and the mortality is great. Of these three cases upon which I have operated two survived the operation and one died. In taking out the chest wall it is usually necessary to remove the first rib, the scapula being pulled up out of the way. When the chest shrinks naturally in empyema, the shoulder is drawn down upon that side; but when we take out the side of the chest, the shoulder usually remains in position. The patient is hollowed out on one side, of course, but he is able to fill this up by means of a pad. The operation does not restore him to health, of course, but it restores him possibly to a passable activity.

#### Discussion Closed.

Dr. C. E. Tennant. Replying to Dr. Andrew's remarks, I will say that my experience has been that if one is thorough in the effort at reaching these pus pockets in the chest, five days is usually quite sufficient to secure all the necessary drainage. The effort then, of course, is to expand the lung, and if there should be a recurrence (a pocket in which the fibrous adhesions should enclose a small amount of pus) my method has been to reach this pocket with a long uterine probe, without making a further incision. In two or three instances where this has been necessary the results have been very satisfactory. The temperature and the localization of the pain are the two signs which are very likely to disclose where this pocket has formed. With relation to the Wolff bottle, I have used it frequently but have found it unnecessary in many instances. The simple effort of expiration on the part of the patient, with the simultaneous use of the cup producing the negative pressure, has been very satisfactory.

With relation to the question of the chronic cases, I purposely avoided them, because the condition is one that is extreme, and this method of treatment has no application here. I merely refer to these cases in the paper, calling attention to the need for further work, but I will say here that this is only another evidence of the need for early expansion of the lung to close these sinuses before they become chronic and that such evidences of early neglect are a sad reflection upon the profession. As Dr. Freeman has said, these are long-standing cases, for the lung has contracted down because of the pleural covering of fibrous tissue. Various efforts have been made to try scarification of the lung to relieve this, but such cases which I have seen were not the type that could secure successful lung expansion in that way. The method which Dr. Freeman has referred to here would seem to be far more practicable.

## LITERATURE.

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- (2) *Practical Medicine Series*, 1908, Vol. II, page 260.
- (3) *Surgery, Gynecology and Obstetrics*, Vol. II, page 310.
- (4) *Surgery, Gynecology and Obstetrics*, Vol. III, page 296.
- (5) *Keene's Surgery*, Vol. III, page 535.
- (6) *Journal American Medical Assn.*, Vol. XLIX, page 1672.
- (7) *Journal American Medical Assn.*, Vol. LI, page 803.
- (8) *Annals of Surgery*, Vol. L, page 151.

**PARAESTHETIC MERALGIA.**

BY ELEANOR LAWNEY, M. D.\*

Denver, Colorado.

In 1895 two German writers, Bernhardt and Roth, almost simultaneously, but quite independently, published an account of the disease named by Roth paraesthetic meralgia. They had each previously reported cases, but had not published their observations, nor recognized the condition as an independent disease.

In 1900 Dr. John Musser and Dr. Joseph Sailer, of Philadelphia, published the report of ten cases, together with an analysis of 89 cases collected from the literature. (1) In the same year Schlesinger in Germany analyzed 122 recorded cases; (2) one of the ten cases of the Philadelphia writers had been observed and noted before Bernhardt's first publication, but it was not then described as a distinct disease. In a typical case of paraesthetic meralgia the patient is aware of sensations of burning and prickling on the antero-external aspect of the thigh. The name omits to refer to the accompanying objective disturbance of sensibility. Points of analgesia may be scattered through the affected area. Tactile hypaesthesia or hyperaesthesia may be present. There may be loss of thermic sensibility. Cases are recorded in which there was complete loss of sensibility to the faradaic current. The sense of locali-

zation is always affected. Internal to the great trochanter is a point of exquisite pain on pressure. This point is the centre of the most marked paraesthesia. During exacerbations of the disease there may be hyperthermia of several degrees over this painful point. It has sometimes been mistaken for abscess; sometimes for periostitis of the femur.

It is rarely that the disease causes paraesthesia in the leg. Sometimes there is dull ache and a feeling of weight in the entire limb, and in the sacro-iliac region of the affected side. In about one-sixth of the cases the disease is bilateral. Often there is slight objective disturbance in the other thigh, which is thought by the patient to be sound. The disease occurs indifferently upon either the right or the left thigh. Reported cases are much more common among males than females. The greater number have been noted after thirty years of age. Trophic changes have been seen in the skin of the affected part.

The assigned causes of this disease are as varied as is the symptomatology. Cold and fatigue are known to produce exacerbations and are often stated as original causes. Heat is also named as a cause in two of the 99 cases analyzed by Musser and Sailer. Injury is mentioned in 19 cases, syphilis in 10, cold in 10, alcoholism in 8, typhoid fever in 8, and other infections in 8 cases; obesity, 1; pregnancy, 1; typhoid fever, catarrhal jaundice, erysipelas and traumatism given as possible causes in a case that recovered after use of the faradaic current. Ten of these cases occurred in physicians. One of the patients of Sailer and Musser was the maternal grandfather of another patient. It seems quite as likely that a faulty mechanical structure was handed down as that the neurosis was a direct inheritance.

In this analysis of 99 cases of paraesthetic meralgia no mention is made of

\*Read before the Medical Society of the City and County of Denver, May 10, 1910.



varicose veins in the subjects of this disease; later writers assign pressure from varicose veins as a frequent cause.

The external femoral cutaneous nerve has an exposed position when it occupies its usual place. In one reported case it deviated from the usual in such way as still more to expose it to injury.

The anterior branch of the external femoral cutaneous nerve descends in an aponeurotic canal formed in the fascia lata, and becomes superficial about four inches below Puopart's ligament, and divides into branches which are distributed to the skin along the anterior and outer part of the thigh as far down as the knee. This nerve occasionally communicates with the long saphenous nerve in front of the knee joint. In cases of paraesthetic meralgia in which there is sensory disturbance in the leg, it may be due to this unusual distribution of the nerve.

It has been thought that the fascia may press upon the nerve and cause the irritation and paraesthesia. It is known that during an exacerbation of the disease the patient instinctively assumes a position which relaxes the fascia by flexing the thigh upon the abdomen. The attitude is as marked as is that of one suffering from peritonitis. Exacerbations and remissions occur, but very few cases of recovery or even improvement have been known. Resection of the nerve has given better results than have been recorded of any other therapeutic measure. Once resection was done upon a nerve that showed no pathologic change, and the operation was followed by relief from pain, although sensory disturbance persisted.

At one autopsy upon an old man with bilateral paraesthetic meralgia a fusiform swelling was found in each nerve where it crossed the crests of the ilia. In the region of these swellings were changes characteristic of neuritis. There was slight sclerosis of the posterior columns of

the spinal cord. There was history of injury from wearing a heavy belt.

In 1887 while doing post graduate work in Philadelphia, eight years before the first publication on paraesthetic meralgia, I saw a case of this disease, but thought it only, as it was described by the patient, "something curious."

Case I.—Miss E., aged 35 years, was examined for a proposed ovariectomy, for the relief of intractable menorrhagia which disabled her from work. The uterus was large and retroverted. Large varicose veins marked purple convolutions above the pubes. Atrophic lines in the skin of the lower abdomen and thighs showed that the patient had previously suffered a severe sickness.

One of the physicians present called attention to the pigmentation of the skin, and said that deposits of pigment might sometimes be seen in connection with varicose veins.

The patient said she had something more curious than that and pointed out an area of disturbed sensation on the upper and anterior portion of the left thigh. No one else seemed interested in it, but I was persuaded of the genuineness of the description and found occasion to examine it more fully.

To the inner side of the great trochanter was an irregularly oval spot about 8 centimeters long and 6 centimeters wide, which was very painful on pressure.

The patient complained of heat, pricking, stinging and numbness, which lessened as the examining hand was moved in any direction, and of dull, boring pain in the entire limb and in the left sacroiliac region when fatigued by walking or standing.

The paraesthesia had developed twenty years before, following an attack of typhoid fever which had kept the patient in bed for three months. It slowly increased in severity. Pain and backache had come

on insidiously in the last ten years. The atrophic lines in the skin dated from the time of her sickness with typhoid fever.

The fever was of moderate severity, but convalescence was complicated by an attack of rheumatism. If the complication were neuritis it would then have been called rheumatism. Multiple neuritis had not then been described. When Miss E. was 13 years old she was severely chilled while walking through deep snow. During the sickness that followed, varicose veins and menorrhagia had developed.

The patient had not before mentioned to anyone the paraesthesia or pain, although she had suffered much from it and was compelled to lie in the right semi-prone position, with the left thigh flexed upon the abdomen in order to lessen the discomfort sufficiently to sleep.

Miss E. believed the backache and morbid sensations in the thigh to be dependent upon disease of the pelvic organs, and so did I.

Ovariectomy was done. The large and tortuous pampiniform veins were noted but were not excised. The uterus was restored to position. Following the operation there was no relief of the painful sensations in the thigh, nor of the aching of the limb and back when fatigued by walking or standing.

Miss E. afterward came to Denver and has since been under my care. I long believed that the pain and claudication that from time to time disabled this patient was due to varices. After I obtained a juster view of the condition, I wished to have a resection of the nerve. The advice was declined, the patient saying it had come a lifetime too late.

Last year, after a week of unusual fatigue, Miss E. had a severe exacerbation which kept her in bed for several weeks. Since then she has had foot-drop, and now has slight paraesthesia in the right thigh. The foot-drop is more marked in

the left foot, but she requires a metal plate on each shoe. She wears out two plates on the left shoe before the shoe is worn out. The arches are broken in each foot. She gets some relief from metal supports. Without her shoes she walks slowly and awkwardly. She walks with the trunk inclined forward.

Over the small area of tenderness on the left thigh there is complete loss of sensibility to the faradaic current, and over the corresponding area of the right thigh the response is lessened. There is slow response to the galvanic current. The deep reflexes are unchanged.

For forty-five years this patient has suffered increasing pain and disability,

In 1898 I found another case of paraesthetic meralgia.

Case. II. Mrs. M. This patient was a woman aged 25 years. Two years before she had been delivered of her first child. Puerperal fever followed. She had continued in a state of invalidism, which was made harder to bear because of the disagreeable sensations on the anterior and outer part of the left thigh, dull ache in the entire limb, and in the left sacro-iliac region. She had large varicose veins, and menorrhagia. Laparotomy was done by the late Dr. Clayton Parkhill. Adhesions were broken up and varices carefully excised. The prolapsed uterus restored to position by shortening of round ligaments.

The menorrhagia was relieved, but there was no relief of the distressing sensations in the thigh, nor of backache and pain in the limb. Mrs. M. walked with a cane and avoided exercise which she said aggravated her distress. She was unable to sleep because of her discomfort, of which she was more conscious when lying down. She became addicted to drugs. She left Denver and I have since been unable to find her.

I did not realize that I had seen two

cases of distinct disease until I read in January 1905 the report of a case of Meralgia Paraesthetica following typhoid fever.<sup>3</sup>

The report was made by Dr. L. L. Von Wedekind, naval surgeon. The patient was an officer, aged 30 years. The disease was bilateral. The report was made a year and a half after the onset of the disease. The patient was improving.

That the disease may assume a very severe form is shown by the following extract from the report:

"The general nervous system is badly shattered, as he has little if any control, and irritability, very foreign to him, is constant. What is usually termed lumbago is present now and again. The right foot I have occasionally seen, both in walking, and sitting with the right leg crossed, to drop, exactly as in wrist drop, but this is not constant and the patient has control. Still it is present at times, and that it is not an attitude its presence in walking demonstrates."

This case and the two that I have cited disagree with the statement of Musser and Sailer that "the disease itself is of such trivial nature that injurious action upon the general health of the patient could rarely be produced." Other writers have treated the disease lightly.

Since finding the second case, in 1898, I have examined all gynaecologic patients and have questioned many others for paraesthetic meralgia, and have lately found another case.

Case III. Mrs. E. Aged 45 years, mother of four children. Normal labors. No disease of pelvic organs. Ten years ago she had a severe attack of gout in the right foot. Three years ago paraesthetic meralgia developed in the right thigh with insidious onset. She has had several exacerbations and is always conscious of abnormal sensations in the right thigh. Typical subjective and objective symptoms

are found. Left thigh unaffected. This case is apparently uncomplicated with varices. I hope to induce this patient to have a resection of the nerve.

Flat-foot is mentioned in nearly all reported cases. I am persuaded that the habitual decubitus—flexing of the thighs with consequent flexing of the legs, together with inability for much walking or standing, result in a degree of contracture of all the structures engaged in flexing the lower extremity, and disturbs the static relations of the foot and leg. The broken arch is a necessary consequence.

This disease has been discussed as a neuritis resulting from a poison having a selective action upon the external femoral cutaneous nerve, as diabetes has upon the anterior crural nerve, and alcohol on the peronei. It has been thought that the symptoms are due to perineuritis.

When the central stump of a divided nerve is imbedded in scar tissue perversion of function of sensory fibres is a prominent feature of the condition. Slight but persistent irritation may cause burning and tingling, and pain of a dull, boring character which may be referred to the deeper structures. Those cases in which, as in case I, reported by me, the disease becomes progressively severe and after a considerable lapse of time affects, in lesser degree, the nerve of the opposite side, seem like examples of migratory neuritis, the disease extending by continuity to the spinal cord and so on to the nerve roots of the other side.

(1) Jour. of Nervous and Mental Dis. 1900, XXVII, 16.

(2) Church and Peterson, Nervous and Mental Dis., 1900, 288.

(3) The New York Med. Jour. and Philadelphia Med. Jour., 1905, LXXXI, 126.

A memorial meeting in honor of Dr. Byron Robinson, of Chicago, was held Sunday, May 22nd, at the Whitney Opera House, Van Buren Street, Chicago. The address was delivered by Dr. William A. Evans. Prof. Chas. R. Van Hise, of the University of Wisconsin, presided at this meeting.

**A CASE OF PNEUMOCOCCAL  
LARYNGO-TRACHEITIS RE-  
COVERING AFTER AN  
INTUBATION OF  
TWO WEEKS.\***

**BY JAMES ALLEN PATTERSON, M. D.,  
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A boy aged 4, of good general physique, was seen with Dr. L. A. Miller during the evening of Feb. 16, suffering with more or less continued dyspnea, hoarseness and croupy cough, and with a history of attacks of dyspnea, accompanied by cyanosis and almost unconsciousness. Dr. Miller stated that the only apparent cause was an attack of measles a short time previous.

The patient was found in a small cottage, the only opportunity of examining being by a kerosene lamp, consequently, no satisfactory view was obtained of the larynx. The following day the conditions not improving, the patient was removed to Glockner Hospital, where, under electric illumination, intense congestion of the larynx was noted with swelling of the mucous membrane beneath the cords, and amounting to almost total occlusion of the lumen. Dr. Solenberger saw him with me at this time, as I felt it might be necessary to use the bronchoscope. A satisfactory view and diagnosis being made without it, however, an intubation tube was immediately introduced, which promptly gave relief to the embarrassed respiration. This tube was coughed out inside of two hours and replaced; from that time until March 2nd, the tube was worn almost continuously, excepting the intervals of daily introduction occasioned by its expulsion every two to eight hours. Gradually, as the swelling subsided, the tube was retained longer, so that it is noted on February 23 that the tube was retained twenty-

eight hours. February 25 a new set of intubation tubes was obtained, slightly varying in shape from those first used, although both were supposed to be of the O'Dwyer pattern; this tube was retained from 6:30 p. m., Feb. 25, to 9:30 a. m., Feb. 27—39 hours—when the nurse became unduly alarmed and removed the tube by traction upon the cord. From this time onward the tube was retained satisfactorily, being removed only for cleansing until the afternoon of March 2nd, when it was removed permanently.

Aside from the length of time it was necessary to continue intubation the case is interesting from the standpoint of therapeutics. The patient had had courses of calomel, salicylate of soda, turpin hydrate, inhalations of steam impregnated with benzoin, and applications of argyrol to the larynx, all of which apparently proved useless. Dyspnea was so great and attended with such dangerous symptoms the moment the tube was expelled that the writer was compelled to replace the tube shortly after it was expelled, often at inconvenient hours of the night. The probability of their being a foreign body in the bronchus was considered, and on February 20 Dr. Brown very kindly made an X-Ray examination, the result of which was negative.

In view of the prostration of the patient it was necessary to use strychnia at varying intervals from February 20 to the end of the illness. Considering these adverse conditions every known method of treatment was thought of; therefore, on February 24, Dr. P. A. Loomis made a culture of the secretion that I swabbed from the trachea, and this showed a pure growth of pneumo-cocci. Examinations and cultures made by Dr. Miller from the pharynx previous to the patient's reaching the hospital had shown only staphylococci. Owing to the urgency of the case, on February 25 an injection was

\*Read before the El Paso County Medical Society.

given of 50,000,000 staphylococci and 5,000,000 pneumococci, both stock vaccines, the latter from a case of acute sinusitis. Very little improvement was noted on March 2nd, when, at 1:30 p. m., 5,500,000 staphylococci and 7,000,000 of the same vaccine were given, subsequent to which very marked improvement was noted, and recovery became assured. A few days afterward the same dose was repeated in the hopes of preventing any relapse after the patient was removed to his home, which occurred on March 3rd. Subsequent history of the patient is uneventful, complete recovery taking place.

Repeated examinations of the lungs during the course of the illness by Dr. Miller, and at one time in conjunction with Dr. W. H. Swan, disclosed no pathological lesion.

From the standpoint of the attendant it would seem that a tracheotomy would have lessened the annoyances of such frequent introduction of the expelled intubation tube, but the writer believed that, with the enormous amount of swelling below the vocal cords, subsequent scar tissue might induce very troublesome stenosis, and the danger of extension of the disease to the lungs be increased. Had it been impossible to bring this case to the hospital where the patient could be under proper surveillance, tracheotomy would have been an absolute necessity, as there were such severe attacks of dyspnea that death would have undoubtedly taken place if relief measures had not been promptly used.

#### *THE FAMILY SURGEON.\**

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So much has been said and written to the glorious memory of the 'family physician' for the past generations that it requires a great deal of temerity to even

make a suggestion of any other class of medical man who might supplant him. We love to do honor to the memory of the generation of physicians now fading away. There have been many of high attainment and culture who have contributed to the wealth of medical knowledge which will continue for all time; they have been practitioners of the highest rank, and in many respects their work will see few changes. In diagnosis they have been masters, and in treatment they have been eminently successful. Let us hope that their influence will continue, and help to stem the tide that has foolishly set in toward therapeutic nihilism.

However, all will agree that with the transition which is taking place in the treatment of disease the old methods must, to a considerable extent, give place to new. There is a new element in treatment which has been injected into the practice of the healing which is here to stay, and which requires special preparation for its perfection. Many diseases have been transferred from the medical to the surgical class, while others require a combined medical and surgical treatment. The microscope and the closer study of bacteriology have paved the way for radical changes in the application of therapeutics until every practitioner of modern medicine must be able to apply surgical principles to the treatment of disease. This must be more and more the case, especially with the generation of physicians now being educated and all those who follow them. Many diseases formerly classed as chiefly medical have been eliminated entirely from that field, and have become wholly surgical; for example—appendicitis, gall stone, retroversio uteri, or cerebral concussion. Besides these there are many others—all of which every practitioner must be able to treat surgically if he is to succeed in his calling.

\*Read before the Colorado State Medical Society, Colorado Springs, September 14, 1909.

The need for the general practitioner will still continue, but he must be in a position to adapt himself to new conditions. Not but that there will still be ample room for the surgical specialist, for many cases must still be referred to him—especially the more chronic conditions. But we must remember that a very considerable number of practitioners live in communities remote from surgical centers, and they must be able to care themselves, for the acute conditions. They must do emergency work of all kinds, for many times the hours of delay required to call a surgeon from a city may mean untold suffering, and in many cases death to the patient. They must be able to treat fractures and dislocations (with all the equipment necessary for purposes of diagnosis, X-ray machine, etc., empyema, with rib resection if necessary, appendicitis, acute abscess—pelvic or otherwise—the accidents incident to the lying-in room, or a paracentesis through the ear drum. One Colorado practitioner performed (with successful result) a caesarian section alone, without even the help of a competent nurse.

This only illustrates an emergency which may arise in the experience of any practitioner, and, being unable to meet it, he may sacrifice the life of his patient. The presumption is that any one will avail himself of the best help obtainable under any circumstances; and the internist is equally guilty with the surgeon if he fails to bring such assistance within reach of his patient. It has been held, generally, that it is the surgeon who commits the greater error by failing to call to his aid his expert confreres; whereas the internist may be equally guilty of neglect in his line by the same failure. And yet he is more easily forgiven because he is not confronted with some appalling demonstration which makes a deep impression on the lay mind attend-

ing some surgical procedure even of minor importance.

It is evident that the average practitioner is so situated that he can not call a surgical specialist to his help to do minor surgery or emergency work of a major character, or even to apply surgical principles to many medical cases. It is equally true that for a long time to come the doctor, in the majority of locations, must still be a general practitioner in a very broad sense—doing more and more of surgery. We have many shining examples of such men. With the changing conditions in treatment of disease it will be in the field of conservative surgery that our new type of practitioner will endear himself to his patrons.

It is the case that every doctor of medicine is in a limited degree a specialist, being more proficient to some one branch of practice than any other. But it is the exceptional man who can follow out his inclinations. And it is the average man away from the medical centers that we have chiefly in mind.

Our new type of doctor must have special advantages to meet the conditions of evolution which are taking place in our education and practice. He must have the inherent qualities which go to make up the man of good judgment, forethought and conservative boldness to meet the varying conditions so constantly changing before him in kaleidoscopic fashion. Many internists would be poor surgeons through lack of self-confidence. And the converse is also true that our best surgeons are, many of them, poor internists. I have seen men attempt an operation, it may have been a laparotomy or an amputation, and become so nervous over it as to entirely 'lose their heads,' and had they not had cool-headed assistance, would have gotten into serious trouble. But the remedy to overcome this lies largely in the undergraduate train-

ing. I am not connected with a medical college, nor am I on a state board of medical examiners; hence I may be pardoned for entering into this discussion from the standpoint of a practical medical man.

From the beginning of civilization medicine has been one of the recognized professions. It may have been practiced as a religious rite or wholly from the standpoint of the materialist. Some have practiced it as a process of therapeutic suggestion. The Christian Scientist can claim no originality except in so far as they have instituted a new religious cult without the semblance of rationalism. Their ideas of suggestion have been practiced for ages—one of the most familiar to us being the practices of the old Indian Medicine Man going through his incantations and wow-wows, with the advantage in his favor that he sometimes recognized his own weakness and would prepare decoctions of various kinds, and sometimes with a good degree of intelligence. The "Immanuel Movement," which originated at the "Hub"—also the "Scientist" propaganda—which has had some influence in removing the cloak of shame from the practices of the latter institution, is itself in danger of falling into grievous error. The great harvest has been reaped by all of these thought suggestion practitioners among the class of nervous diseases—so-called. Nothing seems to delight them so much as to have a case of neurasthenia or hysteria fall into their hands, as though they were diseases purely of—not the mind—but of the imagination; when every medical man of experience knows that every one of them has had its beginning in some pathological condition.

But whatever has been the dominant idea among any and all systems of practice there has been a certain amount of preliminary training required in order to execute their tenets. Tracing back in our

own lineage to the earliest antiquity there have been medical schools and teachers of the highest order. Who has ever supplanted the great "Father of Medicine"—Hippocrates—as a teacher and exemplar? The Egyptians, Hindus, Babylonians, Greeks and Romans, gave a medical training requiring a great deal of study. St. Luke was a physician of ability, no doubt educated in a Greek school, as he used the language fluently, and that was the classic language of his time even among the Jews and Romans.

But it remained for the dark ages to furnish the highest type of medical education that has existed even to the past two decades—and even to-day in America with few exceptions. We read that, "According to a law of Emperor Frederick II, issued for the two Sicilies in 1241, three years of preliminary study were required at the university before a student might take up the medical course, and then he had to spend four years at medicine, and practice for a year under the supervision of a physician of experience before he be allowed to practice for himself." (Jas. J. Walsh, M. D., in *New York Medical Journal*, August 28, 1909.) How different the picture in our own country at the beginning of the last century. There were no requirements imposed by law. Two terms, or thirty-two weeks in all, were an accepted medical course entitling the student to a diploma. One or two exceptional colleges required forty weeks. No special preliminary education was required. Is it any wonder that the profession fell into disrepute and was held in contempt by the more intelligent of the people? We have not yet recovered from the conditions handed down to us. The profession does not hold the place in social, political, ethical and intellectual circles that it should. I believe in the full classical course, with an excess of biology and chemistry perhaps

as a requisite for entrance on a medical course, with no short cut via the six-year combination, giving both the bachelor's and medical degrees. The physician, no matter what of other things may be required of him, should be among the best-educated men of his community. Who is not a better doctor and citizen for having a wide knowledge of classic literature, mathematics, psychology, sociology and political economy? With this as a preliminary we might even recognize the osteopaths, chiropraths, or any other pathies, if they would follow with four years of anatomy, physiology, chemistry, pathology and diagnosis. But I warrant if they were required to meet the above the number of them would shrink to an insignificant sum. And yet who can deny the evil which follows their practices, perpetuated through presuming on their own ignorance as well as that of the public? This latter statement also applies equally well to our mental healing friends.

Much is being said of late about adding a fifth year to the medical course. As a practical man I hope this will not be done—the course is long enough now. Save that extra year for post graduate work later on. Except that I do believe that every graduate should be required to serve an internship in a good hospital for a year. This should be provided by our medical colleges. All the centers of population of any considerable size have good hospitals, and the number of hospitals is constantly increasing, so that it should not be difficult to provide places for all graduates. The final examinations and diploma to be given at the expiration of the internship.

A good deal of objection is made to the time required for the course as suggested above, and yet our student is through by the time he has attained an age when success is his even should he try to practice sooner. Besides, our best

schools are either requiring most of the work recommended or are fast getting on to the higher plane.

A word as to the medical laws which would admit our new graduate to practice. We have no ideal laws as yet. They all have their inception in selfishness, in spite of their many good qualities and the protection they have been to the people of the several states. One state passes a restrictive law and another retaliates with a law that either does not reciprocate at all or with a certain few, or, maybe, pass a law so weak as to deserve no reciprocity. And so it has gone. Perhaps this has all been necessary in the rapid evolution that has been going on in medical progress generally, but it is to be hoped that we will soon come out of it. It seems to me that the function of the state boards should be to regulate the practice of medicine within the state as to incompetents and imposters, protecting the public against criminals and quacks, and administering the law in the people's interests. The graduate might take his examination before a central examining committee which could be made up of one representative from each state board. Then, if successful, he should be able to record his license in whatever state he chooses for his residence.

Therefore granting that the need exists, and with improvement in medical training, it may be that you will grant with me that our new graduate might be competent to be styled the "Family Surgeon."

## Progress of Medicine

INTERNAL MEDICINE.

Edited by

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THE PRINCIPLES OF THE TREATMENT OF GASTROPTOSIS.

Robert Hutchison (*Brit. Med. Jour.*, May 7, 1910) states that mere displace-



ment of the stomach, when unaccompanied by other symptoms, should under no circumstances be treated at all; such conditions often being met with in the course of a routine examination of a perfectly healthy person. It is, therefore, its association with neurasthenia, and functional disorders of the stomach and intestines, which demand its consideration from a therapeutic standpoint.

He reviews the opposing opinions as to whether the gastropotosis causes the neurasthenia, or vice versa. He thinks that either may be primarily at fault, and that a vicious circle is soon established in either event—the displacement of the stomach favoring functional dyspepsia and the dyspepsia leading to impairment of nutrition and nervous exhaustion which in its turn perpetuates the dyspepsia and lessens the tone of the abdominal muscles, which should support the stomach.

The treatment, therefore, resolves itself into three branches: First, and of most importance, the treatment of the neurasthenia; second, the remedying of the functional disorders of the stomach; and, third, the correction so far as possible of the malposition of the stomach. The first of these is best accomplished by means of a well planned rest cure, and feeding of plenty of nutritious food, regardless of a certain amount of distress which may be occasioned thereby. The danger of over-distension of the stomach can be almost wholly disregarded. We thereby increase the fat and blood. Probably the most common and serious mistake of all is the plan of rigidly dieting these patients. Tonics and, occasionally, bromides may be of assistance. Massage of the abdominal muscles and organs help by improving motility.

The oversecretion is best met by free administration of fats and the judicious use of bismuth and the earthy carbon-

ates. Bromides may be of some service. There should be plenty of milk and meat, unless there chances to be a condition of undersecretion, in which event these will have to be given carefully, and the digestion assisted by hydrochloric acid.

The displacement of the stomach is also best remedied by the rest cure, supplemented by mechanical support when the erect position is resumed, although the benefit derived therefrom is probably much less due to elevation of the stomach than to increase of intra-abdominal pressure, and lessening of blood in the splanchnic system. This mechanical supporting is easily accomplished in cases with pendulous abdomen, but exceedingly difficult in those with scaphoid abdomen. He does not think that the argument that the mechanical support demoralizes the abdominal muscles by relieving them of work holds good. On the contrary, he believes the tone is increased. Above all, *do not* operate in these cases, merely to replace the stomach; even if this is permanent, it accomplishes very little. The neurasthenia is likely to be eventually increased by the operation. O. M. G.

#### AN ACUTE INFECTIOUS DISEASE OF UNKNOWN ORIGIN (BRILL'S DISEASE).

Nathan E. Brill (*Amer. Jour. of the Med. Sci.*, April, 1910) reviews the history of the confusion of typhus and typhoid fever and shows how the earlier claims of their differentiation from one another was opposed.

He reports 221 cases which he has observed during the past 14 years, which would ordinarily have passed for typhoid, but which he is fully convinced were not. He gives the following general description: There are three or four days of malaise, anorexia and nausea with slight headache, after which the disease begins rather abruptly, often with a chill or chilly sensations. This may

be followed by vomiting, general body pains or pain in the back and sometimes nose-bleed. The headache now becomes intense and apathy and prostration supervene, with rapidly rising temperature, the fever reaching its height in two or three days, where it remains with very slight diurnal variations until the tenth to fourteenth day, when it terminates by crisis or rapid lysis. During the height of the fever the patient moans and groans and is dull and apathetic, but is seldom delirious. Attempts to move him increases the body pains and headache. The eyes are dull and suffused, conjunctival congested, tongue coated and moist—seldom dry and furred. The skin is hot and dry. About the sixth day a rash appears upon the abdomen and back, and quickly spreads to the thorax, arms and thighs, while it occasionally spreads to the forearms, legs, hands and feet—even the soles and palms occasionally being involved. It is dull red in color, slightly elevated, and does not disappear upon pressure as does the typhoid roseola. The bowels are, as a rule, obstinately constipated. The pulse is full, rather slow, soft, of low tension and often dicrotic. The temperature generally runs from 102 to 105 degrees.

The disease terminates rather abruptly—all symptoms disappearing in a few days and the patient appearing to be well—quite different from typhoid.

It occurs during the various months of the year in about the same proportion as typhoid, and tends to occur a little later in life than typhoid. There is no evidence of its being contagious. Tympanites is rare and the spleen is often enlarged. The blood shows practically no change; the widal is uniformly absent. No germs have been isolated from the blood, urine or feces. It is also negative to the paratyphoid test. Its infectious nature is assumed on account of its analogy to other infectious diseases. Re-

lapses never occur and several cases had had typhoid fever comparatively recently. Complications are rare—except bronchitis.

Brill says that his internes soon learn to recognize it and predict the course of the disease.

There have been no deaths, so nothing is known of the pathology. O. M. G.

#### DYSMENORRHOEA AND TUBERCULOSIS.

Gräfenberg.

Diepgen and Schroeder (*Zeitschrift für Klinische Medizin*, Band 51, Heft 2) attempted to show a relation between general physical development and painful menstruation and the frequent occurrence of dysmenorrhea in women suffering from chlorosis, scrofula and incipient tuberculosis. Often the associated hypoplasia of the genital organs has been held to be the cause of the dysmenorrhea. Eisenstein and Hollos (*Gynacologische Rundschau*, 1907) noticed that a number of women who were taking the tuberculin cure for tuberculosis were cured of their long standing dysmenorrhea, and in an effort to find out whether or not there was a relation of cause and effect, began a routine, testing with tuberculin (subcutaneous test) on all women coming to their clinic giving a history of painful menstruation. Soon they had a group of 118 that reacted positively to the test.

Grafenberg tested thirty of his patients, twenty-one reacted with fever and eleven with fever and local disturbance. Of the twenty-one patients all had suffered from dysmenorrhea from their first menstruation (the primary dysmenorrhea of Tobler), no patient with secondary dysmenorrhea reacted positively. The connection between primary dysmenorrhea and tuberculosis seems clear and established. Of twenty-seven patients with primary dysmenorrhea who reacted positively to tuberculin, Eisenstein and Hollos found

physical signs of tuberculosis in twenty-three, and in nearly all, the genital organs showed signs of infantilism, secondary, the writers believe, to tuberculosis, and they conclude that all patients with primary dysmenorrhea and reacting to tuberculin have genital tuberculosis, and that women suffering from primary dysmenorrhea, but not reacting to tuberculin, have recovered from a juvenile tuberculosis of some pelvic organ that is responsible for the imperfect genital development.

Grafenberg gave six of his patients the tuberculin cure and saw prompt relief of the painful menstruation as well as other symptoms referable to the pelvic organs. (*Munchener Medizinische Wochenschrift*, No. 10, 1910.) Wm. J. B.

#### THE SERUM TREATMENT OF SCARLET FEVER.

Adolph Baginski, Berlin (*Die Therapie der Gegenwart*, Band 51, Heft 1). The antistreptococic Sera of Moser and Marmorek are of no value in the treatment of scarlet fever. Aronson and Meyer have produced a highly polyvalent serum, but the rather favorable report of Baginski of a possible value in some cases should not be taken as final; grave cases were not helped, and in some instances the serum seemed to do harm. W. J. B.

#### SURGERY.

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#### PANCREATIC HEMORRHAGE AND ACUTE PANCREATITIS.

Ransohoff (*Annals Surg.*, May 1910) reports three cases with one feature in common, viz., that a diagnosis was not made until operation was well advanced. Two died and one recovered. The author also protests against the glib manner in which the diagnosis of chronic pancreati-

tis is sometimes made in the course of an operation for gall-stone disease. He believes that this diagnosis, so often made by sense of touch alone, is unscientific, as there is a great variation normally in the density and hardness of the gland. He quotes Prof. Wooley, pathologist of the University of Cincinnati, as saying that, in all the autopsies he has made, he has been enabled only in two instances to make the diagnosis of chronic pancreatitis from the gross findings. H. M. C.

#### THE PATHOLOGY OF THE GALL-BLADDER AND SOME ASSOCIATED LESIONS.

W. C. MacCarty (*Annals Surg.*, May, 1910) presents the result of his studies and observations in the Mayo clinic. The pathology of the gall-bladder reduces itself to stages in a pathological process, which consists of an infection of the mucosa of the gall-bladder, the common or cystic ducts. To a mild obstruction or infection, the first reaction is congestion of the mucosa with slight infiltration. At this stage, the bile at exploration may be of great aid in making the diagnosis, as it may contain an increased amount of mucin, which gives it greater cohesive quality. Adhesions may occur even with this slight degree of inflammation. Congestion and necrosis of the mucosa result in desquamation of the epithelium, thus leaving the tips of the villi bare. These become bile-stained and appear as yellow specks, thus giving the name of "strawberry gall-bladder." This condition is only a stage toward further destruction of the epithelium, flattening of the villi and increase in density, due to connective tissue proliferation, until the velvety appearance inside of the gall-bladder disappears and is replaced by a gray, sometimes pigmented surface. An obstruction to the outflow of the contents of the organ by a stone plus a pyogenetic infection disturbs the circulation of the wall and

causes pus formation and necrosis. The relation between inflammation and carcinoma, especially since it has been shown that a high percentage of stomach carcinomata occurs in the walls of chronic ulcers, leads MacCarty to strongly suspect that carcinoma of the gall-bladder results from long continued inflammation. It is of interest to note that, of the total number of cases, which was 365, 67 per cent. were associated with gall-stones, and that the occurrence of stones bore a marked relation to the extent of the lesion, and that the early acute catarrhal conditions do not necessarily occur associated with stones. Since the beginning of the hospital records there have been 657 cholecystectomies and 17 deaths, a percentage of two and a quarter.

In the etiology of gall-bladder lesions, bacteria play an enormous role. How these bacteria reach the bile and gall-bladder is still a disputed point. Points worthy of mention are the occurrence of duodenal ulcer at the papilla of Vater, and the association of a high percentage of chronic appendicitis with cholecystitis.

H. M. C.

### "THE VALUE OF A SILK THREAD AS A GUIDE IN ŒSOPHAGEAL TECHNIQUE."

H. S. Plummer (*Journal of Surgery, Gynecology and Obstetrics*, May, 1910), reviews the work of Mixter and Dunham in treating of strictures of the œsophagus with a silk thread. Plummer has the patient swallow three yards of buttonhole twist in an afternoon and the remaining three yards on the following day. The first portion forms a snarl in the stomach or œsophagus, which passes out into the intestine during the night; the remaining portion follows as a rule without snarling. The olives are drilled from the tip to one side of the base for threading.

Plummer finds that when introduced on a taut thread a sound follows the axis of

the lumen of the œsophagus. By varying the tension of the thread, obstruction from pocketing and obstruction, the result of actual narrowing of the canal, may be distinguished. The elimination of pocketing permits a more accurate determination of the diameter of the lumen and of the rigidity of the œsophageal wall at the seat of narrowing. The thread avoids all prolonged searching with the sound, and the rapidity and certainty with which the sound can be passed through the mouth, pharynx and œsophagus, very much facilitates the management of children and nervous adults.

Inability to differentiate obstruction from narrowing, and obstruction from pocketing, is responsible for the greater part of the reported mortality (10 to 15 per cent.) from perforation in cases of cicatricial stenosis, and the not infrequent deaths in cases of carcinoma and other œsophageal lesions following the usual method of passing sounds.

F. W. B.

### GYNECOLOGY AND OBSTETRICS.

Edited by  
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#### OVARIAN CYST WITH TWISTED PEDICLE COMPLICATING PREGNANCY—OPERATION.

Rushmore (*Surgery, Gynecology and Obstetrics*, Nov., 1909) reports a case of dermoid cyst of the left ovary with twisted pedicle, complicating a four months' pregnancy. There was cramp-like pain for one day on the left side—low in the abdomen—temperature of 99 degrees—pulse 90. Vaginal examination showed a tumor posterior to the pregnant uterus about two and a half inches in diameter. The tumor and strangulated left tube were removed at operation, and pregnancy proceeded to term without complication.

Rushmore has collected 113 cases from the literature. The third and fourth months are the most dangerous, as at

this time the uterus becomes an abdominal organ and the ovary has better opportunity to move about and become twisted on its pedicle. As the uterus enlarges there is diminished space, and the tumor tends to become fixed. The larger the ovarian tumor, the less likely the pedicle is to become twisted. The condition with which it was most often confused was ruptured ectopic pregnancy; occasionally inflammatory adnexal disease, or appendicitis. Of 2 cases noted, half were completely strangulated and half had merely hemorrhages into the cyst. Of 10 of the cases there were six maternal deaths, and of 105 there were noted 25 interrupted pregnancies. Of these four could not be traced to operation. A comparison of the maternal mortality in Rushmore's Series of less than six per cent., with the mortality of 80 per cent., if no operation is performed (Aronson), should remove any doubt as to the advisability of operation in this condition. An ovarian cyst should be removed in general, as soon after discovery as possible.

C. B. I.

#### IS PUBIOTOMY A JUSTIFIABLE OPERATION?

Williams (*American Journal of Obstetrics*, May, 1910), in a second report adds 12 successful cases, making a total observation of 25, in all of which there have been no maternal deaths, and in the last 12 cases no foetal death, 3 babies having died in the first series of 13 cases, reported at the American Gynecological Society, May, 1908. Of these 25 cases, 12 were primiparous and 13 multiparous, 9 were white and 16 black.

Of this series there were 14 generally contracted rachitic pelves, 3 generally contracted funnel, 1 generally contracted, 3 simple flat, 2 flat rachitic, and 2 typical funnel. And in the entire series 1 transverse and 4 breech, and 20 vertex presentations.

Ordinarily the operations were not undertaken until a long test of the second stage had demonstrated that nature was unable to overcome the disproportion between the size of the child and the pelvis, its average duration being three and one-half hours. In all but the first case, in which the technique of Gigli was employed, pubiotomy was done by Doederlein's sub-cutaneous method, and in every instance the child delivered immediately after sawing the bone. Delivery was effected by forceps in 18, breech extraction in 4, podalic version from head presentations in 2, and version from a transverse presentation in 1 case. In each instance the vaginal outlet was freely dilated before severing the pubic bone in order to prevent injury to the soft parts. There was serious hemorrhage in only 1 case, this one complicated by a deep communicating vaginal tear following a breech extraction of a 4050 gram child. There were 3 perineal tears in primiparae, and 3 in multiparae, communicating vaginal tears were noted in 5 instances in the first, and 4 times in the present series. It would appear that in a few instances these tears might have been avoided had the assistant who performed the operation made horizontal traction with the forceps instead of an upward direction while delivering the head through the vulva. In no instance was the bladder injured, nor did the patients pass bloody urine. Fourteen of the patients presented a temperature of 100.5 or over, although with one exception, none of them appeared seriously ill. On the discharge at the end of the fourth week, the pubiotomy incisions, as well as any tears, were found to be satisfactorily healed. Generally speaking, there was considerable thickening on the anterior surface of the severed pubic bone. By a passive movement of the thigh, definite motility of the cut section was elicited in 14 out of the 25 patients, showing that

healing had occurred by fibrous, rather than by bony union. There was only one instance (case I, of the first series) of injury sustained by the sacro-iliac joints. This was only a transient trouble, and due no doubt to a wide separation of the cut ends of the bone. All the patients, with the exception of one, were able to walk without difficulty, and in this one, the simple, painful locomotion could hardly be ascribed to the operation, as the patient had suffered during pregnancy from a marked relaxation of the sacro-iliac joints, and unable to walk except when wearing a tight binding. The patient has gradually improved since delivery. In all cases the condition of the internal genitalia was excellent and retro-displacements of the uterus noted in only two instances. After a lapse of several months none of the patients complained of any untoward symptoms with the exception of the one mentioned above, who had pain in walking. Williams' experience seems to indicate that the immediate results are more satisfactory in slightly built than in heavily women.

Up to the present time autopsy findings from only five pubiotomy cases have been recorded, and in four of these the union was entirely fibrous.

Upon re-examination of all Williams' patients, in 11 instances quite definite changes were noted in the measurement of the pelvis. In 8 the distance between the tubera-ischii had undoubtedly become increased, and the diagonal conjugate in 5 measured one and one-half centimeters longer than when previously examined, and shows that permanent enlargement of the pelvis may occur in less than one-half of the cases, and is more pronounced in the transverse diameters of the outlet than at the superior strait.

Six of Williams' patients have subsequently become pregnant for the second time, and in 1 instance, for a third time.

Two of these it was necessary to deliver by Caesarean section, 1 by a repeated pubiotomy, 4 had spontaneous labors at term, and 1 a spontaneous premature labor.

The after treatment is not so onerous as is generally stated. A four-inch adhesive strip around the trochanters is sufficient for immobilization of the pelvis. Patients generally move spontaneously in bed between the third and fourth days, are out of bed between the fifteenth and twentieth days, and discharged on the thirtieth day with satisfactory locomotion. Maternal mortality should not exceed 2 per cent if performed by competent operators upon uninfected women who have not been exhausted by previous attempts at delivery.

Pubiotomy it is indicated in contracted pelvises in which the conjugata vera exceed seven cm., and when several hours of the second stage have demonstrated that spontaneous labor can not occur. Prophylactic placing of the saw is indicated prior to breech extractions and from transverse presentations when it appears problematical whether the head will pass through the pelvis, the bone being sawed through immediately after discovering that the disproportion will not be overcome. In uninfected women pubiotomy should replace high forceps, prophylactic version, induction of premature labor, and craniotomy upon the living child. How far it may compete with supra-symphyseal Cesarean section must be shown by future observation. Separation between the cut ends of the pubic bone should not exceed 105 cm.

C. B. I.

#### NEUROLOGY.

Edited by

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#### TECHNIQUE OF CYTO-DIAGNOSIS. SZECSEI'S MODIFICATION.

The diagnostic and therapeutic importance which has lately been given to

spinal puncture and the examination of the fluid so obtained has led to improved methods of examination. The original method of Nonne and Apelt consisted of mixing two cubic centimeters of spinal fluid with an equal amount of an 85 per cent. solution of ammonium sulphate. This mixture was allowed to stand for three minutes and examined for precipitate, which was shown as opalescence or turbidity. This method has given good results, but has the disadvantage that it depends upon a subjective valuation. Szecsi has modified the original method by the construction of a graduated centrifuge tube, as shown in the illustration. The tube is filled to mark "L" with spinal fluid and then to mark "A" with an 85 per cent. saturated solution of ammonium sulphate. The tube is then centrifuged for about 30 minutes. The precipitate is then easily read off by the scale, which corresponds to the scale of Nonne, who depended on the appearance of the fluid to determine the density of the precipitate.

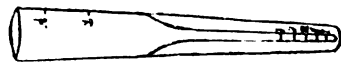
This method makes possible the quantitative determination of the albumin, as the tube is graduated to 0.005 cc. Vierordt estimated the average total amount of cerebro-spinal fluid to be 218 cc. Since the tube contains 2 cc. when filled to mark "I," then 0.005 cc. precipitate in this amount corresponds to 0.545 cc. in the total cerebro-spinal fluid. This determination is naturally only relative. The principal advantage of the modification is that the scale is more accurate than the eye, since it can be obtained objectively. The tubes can be procured from Ernst Leitz in Berlin.

The second modification is a modification of the Fuchs-Rosenthal method of counting the leucocytes in the cerebro-spinal fluid. Their method was to count the leucocytes by means of an apparatus

similar to the Thoma-Zeiss blood counting apparatus. The method was very useful, but could not be used in those cases where the number of the cells was very small. Szecsi examines the cerebro-spinal fluid in the following manner: He slowly centrifuges the fluid in a tube similar to the one employed above, for three or four minutes. The precipitate is then taken from the bottom of the tube with a capillary pipette, placed in a petri dish and the fluid drawn into the pipette of the blood-counting apparatus. The original staining can be used.

The practical importance of these methods can hardly be over-estimated. By referring to the April issue of "Colorado Medicine" (p. 158) it will be seen that in all the five different groups of cases of tabes the increase of globulins (phase I) and the leucocytosis were constant; that they paralleled the positive Wassermann reaction in the blood, and that the increase of white cells was often found in the cerebro-spinal fluid when the Wassermann reaction was negative. Special emphasis should be laid on the fact that this leucocytosis is a lymphocytosis and not an increase of the polymorpholeucocytes. Further analysis shows that the increase of globulins parallels the increase of lymphocytes.

Szecsi analyzes his cases and tabulates them as follows (the figures corresponding to the scale on his new tube):



Disease	No. Cases	O	I	II	III	IV	V
Dementia paralytica	8	.	.	.	1	5	2
Lues cerebrospinalis	1	.	.	.	1	.	.
Multiple sclerosis	3	.	1	.	1	.	1
Alcoholic dementia	1	.	.	.	1	.	.
Hemiplegia	4	.	.	.	3	1	.
Little's Disease	2	.	.	1	1	.	.
Tabes	5	.	.	.	1	2	2
Healthy Individuals	4	3	1	.	.	.	.

Although the number of cases is far too small to deduct a certain rule, the general tendency is to emphasize the importance of this procedure in suspected cases of specific origin. It will be noted that the table shows but three diseases in which the fifth degree of reaction was observed, viz., tabes, paresis and multiple sclerosis, and that only three diseases showed the fourth degree of reaction, viz., paresis, tabes and hemiplegia. The emphasis seems to fall on the cases of specific origin.

Flexner has emphasized the fact that the cerebro-spinal fluid may be clear in cases in which the microscopical examination revealed the presence of meningococcus. The sera of tuberculous cases are often or rather usually clear, but the above simple procedures should always be used to avoid error. It seems that, if it is justifiable to subject the patient to spinal puncture, the examination of the serum should be complete.

Conclusions drawn from the literature seem to show that spinal puncture is being used with increasing frequency, that it is a method of great diagnostic value, that newer and more accurate methods are being developed, that the examination of the serum for globulins and leucocytes is a most important procedure, and that examination of many normal sera has failed to show more than a trace of albumin. Any deviation from this normal points to disease of the nervous system.

E. W. L.

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#### OPHTHALMOLOGY.

Edited by  
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#### PHLYCTENULAR AFFECTIONS OF THE EYE.

Sydney Stephenson and J. A. Jamison (*British Med. Jour.*, April 16, 1910) report their observations recently made at the Queen's Hospital for Children, London, which confirm the view that phlyc-

tenular disease is a tuberculous manifestation, or, at least, that it occurs in tuberculous subjects. They employed the von Pirquet vaccination in 20 cases in children whose ages ranged from 2 to 12 years. Practically every kind of phlyctenular disease was experimented upon, varying from recent conjunctival or corneal eruptions to long standing scars upon the cornea, which had almost certainly resulted from former attacks of phlyctenular inflammation. A positive result was obtained in every instance.

About 50 per cent. of their cases presented more or less obvious signs of tubercle, medical or surgical, while about 70 per cent. gave a family history of tubercle.

The view that phlyctenular affections of the conjunctiva and cornea are tuberculous is an old one. The older writers spoke of the affection as "strumons" or "scrofulous ophthalmia." With the more or less general abandonment of the word "strumous," which marked the era following the discovery of the specific micro-organism of tuberculosis by Koch in 1882, there came a corresponding giving up of the word as applied to those eye affections. The suggestion made many years before by the famous Glasgow oculist, William Mackenzie, that for "strumous" the word phlyctenular should be substituted, was very generally adopted, except perhaps in Germany, where the disease is usually spoken of as eczematous conjunctivitis or keralitis, as the case may be. The pendulum has now swung in the opposite direction. The tuberculous or para-tuberculous origin of phlyctenular disease is again to the fore. Nobody asserts that the phlyctenule itself is of tuberculous histological structure, or that it contains the tubercle bacillus. Nevertheless, it is now widely believed that, practically speaking, the characteristic lesion occurs only in those who are the subjects of tuberculosis, latent or otherwise.



The main facts that have led to this change of opinion are:

(1) The frequency with which a family history of tubercle can be obtained from the subjects of phlyctenular disease.

(2) The frequent coexistence, along with phlyctenular disease of other manifestations of tuberculosis—as, for example, enlarged glands or joints, otorrhoea, phthisis pulmonalis, dactylitis and scrofuloderma.

(3) As a result of examination of the blood in upwards of 50 patients with phlyctenular disease, Nias and Paton have shown that observations of the opsonic index go far to support the hypothesis that phlyctenular ulcers are due to the escape of attenuated or dead bacilli from some distant focus of tuberculous disease.

(4) The positive results obtained in phlyctenular cases by employing the Koch, Wolff-Eisner-Catmelli, von Pirquet, or other specific test for tubercle. E. W. S.

#### OXYCEPHALY.

Mr. W. M. Beaumont, in a paper read before the Ophthalmological Society of the United Kingdom (*British Medical Journal*, Nov. 20, 1909) said he regarded the association with this condition of optic neuritis or atrophy as a not inevitable secondary result, so that the term "syndrome" applied to it by Patry seemed to him inaccurate. The credit of first pointing out the clinical symptoms of the disease was due to William Mackenzie of Glasgow, whose description, however, had failed to attract the attention it deserved. He had noted the shallowness of the orbits and the consequent exophthalmos, the vertical position of the roofs of the orbits, the extreme height of the head, and the blindness. In 14 cases recorded in recent British literature there were 5 females. In Patry's list, drawn from French and German sources, there were 7 females in 64 cases. The author disagreed with Dorfmann, who advocated trephining to pre-

vent optic atrophy, because he considered the optic neuritis and atrophy were not due to an increase of the intracranial pressure, but rather was the result of direct injury by bony distortion. Patry had stated that Sir Walter Scott and others had suffered from a slight degree of this disease. If this were true, it was possible that cases of arrested oxycephaly might be overlooked. Possibly so-called idiopathic optic atrophy might be due to a fruste form of oxycephaly. E. W. S.

#### TABES DORSALIS.

David Ferrier (*Clinical Journal*, March 30, 1910) directs attention to the well known fact that many patients suffer from optic atrophy, or are subject to lightning pains or visceral or other crises, without ever developing ataxy. The essential element in the causation of ataxy is degeneration of the reflex collaterals to the anterior cornea and Clark's columns. The essential cause of the ataxy is the loss of sensory impressions which arise in the muscles, the tendons and the joints. This entails loss of muscular tone. Hence, in tabes there is absence of the knee-jerk and of the Achilles-jerk which are the most important expressions of this reflex tone. In tabes all sensory impressions may be more or less impaired. Vision may to a large extent compensate for the loss of conscious sensation, and in the absence of vision all disorders of co-ordination are intensified, and this is the pathognomonic feature of ataxy.

It is well to bear in mind that every case of tabes is not progressive, although many tend to be so. Speaking generally, mercurial treatment is singularly inefficient in the para-syphilitic affections. At the same time, there may be traces of the original virus in the system, and so Ferrier would give the patient the benefit of the doubt by placing him under treatment by inunctions or the internal administration of mercurials or iodides. Mercurial

treatment, however, when prolonged is apt to do more harm than good. Tabetics should be warned against undue muscular exertion and against exposure to cold and to damp.

E. W. S.

#### DERMATOLOGY.

Edited by

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#### COLLE'S LAW.

(*Dermatologisches Centralblatt*, April, 1910.)

This investigation of the question, whether or not all "Colle's Law" mothers are syphilitic, includes a series of 116 cases. Of these, one group had borne syphilitic children, with the declaration that they themselves had never had any symptoms of syphilis and had never received any specific treatment; the other group admitted that they had syphilis and had been treated for it.

The Wasserman reaction gave about an equal percentage of positive results in the two groups. The positive reaction was obtained as frequently in the mothers who had borne but one syphilitic child as in those who had borne many. Those examined immediately after birth of a syphilitic child, reacted positively in about 80 per cent. of cases. Those examined many years after such a birth, in about 45 per cent.

It seems, therefore, that the "Colle's Law" mothers are in the same condition as those admittedly syphilitic, and that by far the greater number of mothers of syphilitic children are themselves syphilitic.

The practical value of this study is very great. It is altogether too little recognized with what frequency syphilis remains latent in its early stages, to manifest itself years later, often in a most intractable and damaging manner. Every mother of a syphilitic child, regardless of her previous history, or her present

condition, should be subjected to a course of specific treatment as carefully, and for as long a time, as though in the early secondary stage.

"Colle's Law" is no longer to be regarded as proof of immunity, but as proof of previous infection, since clinical observation shows that the large majority of such cases will in time develop late secondary or tertiary lesions, and in addition, the positive Wasserman reaction establishes beyond question the existence of active or latent cues.

A. J. M.

## Constituent Societies

### DENVER COUNTY.

A regular meeting of the Medical Society of the City and County of Denver was held May 3, 1910, at the Academy of Medicine Building, Dr. C. B. Van Zant presiding. The minutes of the preceding meeting were read and approved.

The Secretary read the answers received from our respective members of congress on the subject of the National Bureau of Health.

Dr. Stover read a letter in the nature of a request for a new department or section in the A. M. A. devoted to the discussion and advancement of questions bearing on the physical forces in medicine and surgery. It was moved and carried that the Society endorse the idea.

Dr. M. T. Love read a paper on "Results of Inspection of the Denver Lying-in Hospitals," which was much enjoyed and thoroughly discussed.

Dr. T. E. Carmody read a paper entitled "Conservative Oral Surgery," which was short and to the point. In the discussion which followed Dr. F. C. Buchtell mentioned that we are apt to think only of the surgical procedures, and added that many of the sarcomas are not so malignant as commonly supposed; that the mixed forms are not so malignant, and that the mixed and round-celled forms are very malignant. In many cases of the giant cell form it often suffices to curette and use the paque-lin cautery. He suggests that in many cases it would be wise for the dentist to call the general surgeon. Dr. Carmody closed the discussion.

Dr. W. C. Bane gave a paper entitled, "Report of a Case of Cerebral Abscess Following Chronic Otitis Media, with Exhibition of Specimen." The report was very instructive, and was enlarged upon by Dr. A. G. Case, who added some points to the history of the case. Dr. C. B. Childs exhibited an X-Ray plate pointing out a shadow of the abscess. Dr. O. M. Shere spoke of the use of the knife in opening these abscesses, believing that such a method is better than the use of the needle. Dr. La-zell spoke of the general features of abscess,

and analyzed the case from the clinical report. The Society then adjourned.

E. W. LAZELLE, Secretary.

A regular meeting of the Medical Society of the City and County of Denver was held on May 17, 1910, in the Academy of Medicine, Dr. C. B. Van Zant presiding. The minutes of the preceding meeting were read and approved.

The Library Committee reported and offered those inclined the opportunity to donate.

Dr. H. Heath read a paper entitled, "Mucous Colitis, With Special Reference to Etiology and Treatment." The discussion was opened by Dr. J. R. Arnell, who regards the disease as a neurasthenic gastro-enteroptosis. Dr. H. Cohen made a preliminary report of a case of appendectomy, followed by vaccine. Dr. P. Potulsje regards the disease as a neurasthenic gastro-enteroptosis and spoke of the treatment of cases by diet. Dr. J. R. Hopkins believes that the disease is due to infection from outside the intestine, and relieves them by removing the adhesions. Dr. H. Wetherill declined to discuss the paper, after which Dr. Heath closed the discussion.

Dr. A. M. Ditson read a paper entitled, "The National Florence Crittenton Mission," after which there was some discussion of various subjects suggested by the paper.

Dr. O. M. Shere, in the absence of Dr. Spivak, read Dr. Spivak's paper entitled, "Physicians in Fiction No. VIII. Physicians As Seen by Sars Orne Jewett." The paper, as usual, was a masterly presentation of the subject, and was much enjoyed.

The Society was then adjourned for the summer vacation. E. W. LAZELLE, Secretary.

#### FREMONT COUNTY.

The Fremont County Medical Society met in the office of Dr. J. W. Rambo, Portland, Colo., Monday evening, May 23.

Dr. Graves presented an operative procedure which he has been using for several years in cases of acute gonorrhoeal epididymitis, with gratifying results. The operation consists in simple incision through the scrotum and tunica, down to the epididymis, with the introduction of a drain to be left in place until the subsidence of the inflammation. The results he claims for the operation are immediate relief from pain, prompt reduction of fever, and rapid recovery, with diminished liability to sterility. Dr. Graves also reported several cases.

Dr. Geo. H. Curfman, of Salida, read a very able and exhaustive paper on Rupture of the Urinary Bladder, with report of a case referred by Dr. Rupert, of Florence. This case was operated upon and showed a rent in the dome of the bladder, about 4 inches long, and entirely intra-peritoneal. The injury was complicated by an impacted fracture of neck of left femur. The patient recovered perfectly.

Dr. Curfman discussed this subject in detail, going into the history, frequency, etiology, pathogenesis, classification, complications, symptoms, diagnosis and treatment. The paper was

also freely discussed by Drs. Graves, Little, Rupert, Moore, Holmes. A vote of thanks was tendered Dr. Curfman for coming to Fremont county and reading so excellent a paper.

Dr. Margaret A. Fleming and Dr. Minerva Knott were elected to membership. Dr. and Mrs. Rambo served the Society with an elegant luncheon at their home, and were given a hearty vote of appreciation by the members present.

ROYAL C. ADKINSON, Secretary.

#### LAKE COUNTY.

The Lake County Medical Society held its regular meeting on the evening of April 28th, at the office of Dr. Boyd, Leadville, and was called to order by its president, Dr. A. M. Maclean.

It was stated that the meeting had been specially called for the purpose of taking some action concerning Senate Bill No. 6049, introduced by Senator Robert L. Owen, for the creation of a Department of Public Health. Dr. Boyd, as member of the Auxiliary Legislative Committee of the A. M. A., read communications received by him from Dr. Chas. A. L. Reed, Chairman Committee on Legislation, and Dr. J. N. McCormack, Chairman Committee on Organization, with reference to the bill.

The following resolutions were offered and unanimously adopted:

Whereas, We recognize the possibility of banishing all germ disease, and,

Whereas, This can be more speedily and economically accomplished by the establishment of a Department of Public Health with a representative in the cabinet of the president; now, therefore, be it

Resolved, That the Lake County Medical Association in convention assembled in Leadville, Colorado, on this, the 28th day of April, A. D. 1910, does hereby heartily endorse Senate Bill No. 6049, introduced by Senator Robert L. Owen, for the creation of a Department of Public Health; and, be it further

Resolved, That we earnestly and respectfully ask that our senators and representatives in congress support said measure by their votes and best efforts.

Resolved, That copies of these resolutions be sent to Senators C. J. Hughes, Jr., Simon Guggenheim and Robert L. Owen, and Representatives A. W. Rucker, E. T. Taylor and Jno. A. Martin.

The Society then adjourned.

E. F. BOYD, Acting Secretary.

#### OTERO COUNTY.

The second of the Public Health meetings held by the Otero County Medical Society, was held on May 6th, at the Presbyterian Church at Rocky Ford. Dr. Corwin and Dr. Peairs, of Pueblo, who addressed the first meeting at La Junta, were also the speakers of the evening at Rocky Ford. The meeting brought out a large and appreciative audience. "The Prevention of Tuberculosis," and "The Prevention of Typhoid Fever" were the subjects discussed.

## Books Reviewed

**The Sexual Life of Woman in its Physiological, Pathological and Hygienic Aspects.** By E. Heinrich Kisch, M. D., Professor of the German Medical Faculty of the University of Prague, etc. Only authorized translation into the English language from the German, by M. Eden Paul, M. D. Illustrated. 1910 (New York. Behman Company). Price, \$5.00.

In this book the sexual life of the woman is divided into three parts, that of the menarche (the period when menstruation as a sign of puberty first makes its appearance), the Epoch of the Menacme (the period of culmination of the sexual development of woman during the process of reproduction, copulation, conception, pregnancy and parturition), and that of the Menopause.

There is, undoubtedly, less known of this subject than there should be. The German and the French have gone into it more thoroughly than the English or Americans.

The book is written with serious purpose, though in places the reading is morbid and discursive. There is much material and statistical data collected for the work—and of its kind this book is as well treated as any.

**Medical Gynecology.** By Samuel Wyllis Bandler, M. D. Second edition. W. B. Saunders Company. 1909. Philadelphia and London.

The second edition of this work has been enlarged. Chapters on electricity and hydrotherapy have been very completely gone into and there are several pages on the Head Zones taken from the work of Elsberg and Neuhof which have been added and are an aid to diagnosis. This book takes up the non-operative side of gynecology, in which field of medicine conservative treatment is probably of greater value than any other branch. The operations are reserved as a last resort. The chapters are interestingly and well written and are arranged from the standpoint of symptoms, the disease, the bi-manual, microscopic findings, and the general nervous state. To diminish the necessity of referring to other sections there is a repetition in order to make each chapter in itself fairly complete. Perhaps one's only criticism to this book may be that it is not quite concise enough. One has to read considerably to gather the important points. The chapter on constipation, written by Dr. Geo. Meannheimer is exceedingly complete, while the chapter on gonorrhoea is very good. Winter's work is much quoted, especially in the chapters on carcinoma, matters relative to diagnosis and pathology. This is a book from which much valuable information can be obtained. The nervous side of the woman, which enters to such an extent in gynecological troubles is thoroughly considered.

C. B. I.

**Examination of the Urine.** A manual for students and practitioners. By G. A. DeSantos Saxe, M. D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School

and Hospital. Second Edition, Revised. With text illustrations and colored plates, a number of them original. Published by W. B. Saunders Company. 1909. Philadelphia and London.

The second edition of this work has appeared. It is a very good book for the student and for a laboratory guide. It is concise, to the point, and the manner in which it is written serves in a way to bring the laboratory man in closer touch with the clinical aspect of conditions and with the patient. The significance of the urinary constituents is treated by short paragraphs which go into the normal and abnormal conditions; influencing their occurrence and following this description, the methods of testing for and obtaining the quantitative estimations are given. In a separate chapter the characters of the urine in diseases of the kidney and renal pelvis are taken up and in another those of the lower urinary tract are considered. The methods of determining the functional efficiency of the kidneys are gone into, the methylene-blue test, the indigo-carmin and phloridein tests considered in determining separate function of the kidneys after renal catheterization. The book is up to date and admirable for its size.

**A Text-Book of Obstetrics.** By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. Sixth Edition, Revised and Enlarged, with 847 illustrations, 43 of them in colors. Published by W. B. Saunders Company. 1909. Philadelphia and London.

Hirst's Text-Book of Obstetrics needs little introduction. The sixth edition which recently appeared has been enlarged upon by an extensive addition to the section on gynecological operations. This section in itself is quite a work; the author stating that the obstetrician must be able to diagnose, give proper advice and be able to operate for all complication and consequences of the child bearing period, from which condition the vast majority of female trouble arises. The book is an excellent text-book for the student as well as a work of reference for the practitioner. A number of illustrations have been added to the large number present in the older editions. They add materially to the book. The chapter on Development of the Organs of Generation is very clear and good. The whole book is to the point and concise. The subject of Toxaemias in which there is so much controversy at the present time, could with advantage be enlarged upon. The recitation of the author's own cases adds interest to the work and his large experience enables him to write in a way to instruct the student and advise the physician in active practice.

C. B. I.

## Books Received

**Duodenal Ulcer.** By R. G. A. Moynihan, M. S. (London), F. R. C. S., Senior Assistant Surgeon at Leeds General Infirmary, England. Octavo of 379 pages, illustrated. Philadel-

phia and London; W. B. Saunders Company, 1910. Cloth, \$4.00 net; half morocco, \$5.50 net.

**The Pathology of the Living, and Other Essays.** By B. G. A. Moynihan, M. S. (London), F. R. C. S., Honorary Surgeon to Leeds General Infirmary; Professor of Clinical Surgery at the University of Leeds, England. 12mo of 260 pages. Philadelphia and London; W. B. Saunders Company, 1910. Cloth, \$2.00 net.

**Medical Electricity and Rontgen Rays.** By Sinclair Tousey, A. M., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Octavo of 1,116 pages, with 750 illustrations, 16 in colors. Philadelphia and London; W. B. Saunders Company, 1910. Cloth, \$7.00 net; half morocco, \$8.50 net.

**Pulmonary Tuberculosis and Its Complications.** By Sherman G. Bonney, M. D., Professor of Medicine, Denver and Gross College of Medicine, Denver. Octavo of 955 pages, with 243 original illustrations, including 31 in colors and 73 X-ray photographs. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$7.00 net; half morocco, \$8.50 net.

**Prescription Writing and Formulary.** By John M. Swan, M. D., Associate Professor of Clinical Medicine, Medico-Chirurgical College of Philadelphia. 32mo of 185 pages. Philadelphia and London: W. B. Saunders Company, 1910. Flexible leather, \$1.25 net.

**Surgical After-Treatment.** By L. R. G. Cran- don, A. M., M. D., Assistant in Surgery at Harvard Medical School. Octavo of 803 pages, with 265 original illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$6.00 net; half morocco, \$7.50 net.

**A Text-Book of Pathology.** Second edition, revised. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia. Octavo of 856 pages, with 437 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$5.00 net; half morocco, \$6.50 net.

**My Personal Experience With Tuberculosis.** A book on Tuberculosis, published by Will M. Ross, Stevens Point, Wis. Pamphlet form, 64 pages, price 80 cents.

## **Pamphlets and Reprints**

**Successful Cases of Puerperal Eclampsia.** By Robert Emmet Coughlin, M. D., Brooklyn, N. Y. (Reprint from American Medicine, New Series, Vol. V., No. 3, pages 141-146, March, 1910.)

**The Athletic Life in Its Relation to Degenerative Changes in the Cardiovascular System.**

By Robert E. Coughlin, M. D., Brooklyn, New York. Reprinted from the Medical Record, April 2, 1910.

**Congressional Record.** Sixty-first Congress, Second Session. Department of Public Health. Speech of Hon. Robert L. Owen of Oklahoma, in the Senate of the United States, Thursday, March 24, 1910. Pp. 15.

**Pityriasis Rubra Pilaris (A Clinical Study).** By A. J. Markley, M. D., Denver, Colo. Reprinted from Denver Medical Times and Utah Medical Journal. Three pages, with illustrations.

**Proceedings of the Fortieth Annual Meeting of the American Medical Editors' Association,** held in Atlantic City, N. J., June 5th and 7th, 1909. Published by the Secretary, 92 William Street, New York. Pp. 134.

**First Annual Report of the Free Out-Door Maternity Clinic,** conducted at 216 East 76th Street, by Mr. John E. Berwind and Dr. I. L. Hill. Covering the nine years of the clinic's existence. New York, March 1, 1910. Pp. 60.

**A Substitute for Bellocq's Application of Tampon and a Very Rare Case of Sarcoma Ossis Turbinalis.** By Zdenko V. Dworzak, M. D., Denver, Colo. Reprint from Denver Medical Times and Utah Medical Journal. Three pages and illustration.

**Cutaneous Blastomycosis.** By A. J. Markley, M. D., Denver. Reprinted from Denver Medical Times and Utah Medical Journal. Four pages, with illustrations.

**The Ever-Lengthening Chain of Medical Literature.** By Edward Jackson, M. D., Denver. Reprinted from The Journal of the American Medical Association, Feb. 26, 1910. LIV. Pp. 676-679.

## **Items**

Dr. F. A. Tower, who finishes his hospital service at Work House Hospital, Blackwell's Island, New York City, July 1st, is anxious to become the assistant to some surgeon in Colorado, and will appreciate it if any doctor desiring a surgical assistant will write to him at the above address.

Dr. W. W. Wilkenson of Silverton, Colo., has recently returned from Chicago, where he has been taking a post-graduate course of electrotherapeutics.

Dr. John R. Espey of Trinidad has taken a trip to Honolulu.

Dr. D. G. Thompson of Trinidad has fully recovered from his recent illness.

Dr. William Hutchinson, formerly of Del Agua, is now located at Aguilar.

# COLORADO MEDICINE

OWNED AND PUBLISHED MONTHLY BY THE COLORADO STATE MEDICAL SOCIETY

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All communications to this publication must be made to it exclusively. It will be more satisfactory to all concerned if contributions are typewritten.

Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions.

Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession, will be gratefully acknowledged. The name of the sender should be given.

The journal will be issued on the 15th of each month. All copy must reach the editor not later than the first of the month. Advertisements of proprietary medicines will be accepted provided the preparations advertised have been approved by the council of pharmacy and chemistry of the American Medical Association. Address all communications regarding advertising to

D. & E. Zimmerman, Adv. Mgrs., 1120 Lincoln Ave., Denver, Colo.

## NOTICE.

All members of the Colorado State Medical Society are entitled to a copy of this journal each month. Failure to receive the same, and change of address, should be promptly communicated to the editor.

VOL. VII

JULY, 1910

NO. 7

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

**THE NEXT MEETING OF THE SOCIETY WILL BE HELD AT COLORADO SPRINGS ON THE 11TH, 12TH AND 13TH OF OCTOBER, THE HEADQUARTERS WILL BE AT THE ANTLERS HOTEL.**

The Committee on Program has been diligently at work and we are informed that an unusual number of interesting and valuable papers have been promised for the October meeting of the State Medical Society. The Committee of Arrangements have their plans well in hand and there is every indication that the meeting will be most attractive to members both for scien-

tific and social interest. There is no place in the state where the society can be so pleasantly entertained. Colorado Springs is one of the most attractive cities in Colorado, the scenery is unsurpassed and the hotels leave nothing to be desired. There should be a very general attendance at this meeting, and if we can judge from correspondence received the meeting will be a very popular one. Make your hotel reservations early.

## THE ST. LOUIS MEETING.

The annual convention of the A. M. A. from June 7th to 10th was as usual of late years interesting.

The registered attendance was a little in excess of four thousand, the third largest in the history of the association. The arrangements were in the main unusu-

ally good. The meeting places of the sections, the registration and place of exhibits were widely distant and far from the hotels, but easily and quickly reached from all. There were convenient lunching places to all sections, so it was not necessary for the members to return to the hotels for this purpose. This arrangement worked admirably in maintaining a good attendance at the sessions and sustaining interest in the work of the sections.

The general session was at the Odeon theater. The welcoming address of Governor Hadley was the best, most spirited and impressive that has ever been delivered by a layman before this association. It was received with enthusiastic applause. It was refreshing and encouraging to listen to an address that was so brilliant and timely, and that showed so much familiarity with recent medical progress; and its relation to the rules and regulations governing public health questions. The section meetings were well attended at every session. The gynecological and obstetrical was better, and more largely attended, than usual, while the symposium added greatly to the interest. This feature should be encouraged in all sections. The surgical section from beginning to ending was, perhaps, more largely attended than any other and the interest in papers and discussions never flagged. The sections on practice of medicine, ophthalmology, laryngology, were excellent in every respect. In fact the whole list made a commendable showing. The comment was frequently heard that in scientific interest and importance it was the best meeting in the history of the association.

The trustees' report showed a satisfactory financial condition with a surplus, notwithstanding the construction of a \$200,000 addition to its present plant which will be finished in six months. Fifty-four thousand copies of the journal are published weekly. The report of the commit-

tee on medical education showing the condition and character of the schools and colleges of the country is a work of the greatest importance and worthy of being read and considered by every physician. The committee on pharmacy and chemistry is doing a great work that is highly appreciated. The entire profession should be familiar with the reforms being enacted by it. Abroad it is recognized, especially in Germany. The various committees on public instruction and legislation will in the future, in the interest of economy and efficiency, be consolidated and managed chiefly through the Journal office.

The scientific exhibit in charge of Dr. Wynn was especially good. It is an instructive and valuable department of the annual meetings and worthy of the highest praise. The commercial exhibit in charge of Mr. Braum (business manager of the Journal) was very attractive and ethical in every way. The drug exhibit was not so large and conspicuous as formerly, being a significant sign of the times.

As every one expected the address of Professor Welch as president, was a most interesting and pleasing retrospect of the last ten years' work of the association. He concluded with a strong plea for the establishment of a health department in the cabinet of the government.

The election of Dr. J. B. Murphy as president was justly and warmly approved by the association. With his election and also that of high class men as chairmen of the sections a good program and a scientific meeting at Los Angeles next year is assured.

The active membership of the association is now thirty-four thousand. It is the largest, the strongest and the most influential organization in the history of medicine. Its purpose is scientific and altruistic. To make the standard of education and of men worthy of the cause and equal to the occasion, united, co-operative organ-

ization is essential. It is the first time in the history of our country that the medical profession has exercised a positive influence on public opinion. It must be a source of professional pride that today it is confessed the physician is a necessary and important factor, at least, in the enactment of rules and laws concerning the public health. It is also gratifying that the public is beginning to realize that it is just as important, at least, to safe-guard the health of the people, as to protect the health of the live stock industry.

#### *DR. ROBERT KOCH.*

The medical world and the world in general learns with sad regret of the death of this distinguished scientist and physician,—one who has been a stimulus to others in science, and a man admired and loved by all who knew him.

Perhaps the most important advance in medical science of the last century has been the overthrow of the Spontaneous Generation Theory, and the recognition of the relation of bacteria to disease, by Koch, Pasteur, Cohn, and Tyndall. To Pollender and Davaine is due the honor of the first undoubted discovery of the micro-organism in relation with disease, when, in 1863, the anthrax bacillus was discovered in the specific disease of cattle; but surpassing all, because of the difficulties encountered, was the brilliant discovery of the tubercle bacillus by Koch. What that discovery has meant, and what the activities along this line by this one man have meant to the advancement of medicine, is well known to the profession. In Dr. Koch they have lost one of their most honored and brilliant men.

#### *A SANE FOURTH OF JULY.*

Denver is to be congratulated upon the adoption of a "sane" celebration for the Fourth of July. The fire and police board forbade the use of firearms large crackers and torpedoes, leaving the small boy the

comparatively harmless small Chinese cracker only. In consequence the doctors of the city had an unusually small number of accident calls and many homes are today happy which otherwise would undoubtedly have been sad. A "sane" Fourth of July is worth while.

#### *THE DEPARTMENT OF HEALTH.*

It is most unfortunate that the movement before the last Congress for the creation of a Department of Health should have been checked and that the bill of Senator Owen should have failed of passage. The measure had the strong support of the administration and of various scientific bodies throughout the country, and it is receiving more and more popular support as its objects are understood. It appeals to the good sense of all who have the public weal at heart that the scattered activities of the government for the protection of the public health should be concentrated under one responsible head. Rather late in the session an active opposition developed, fostered by the New York Herald, and it is asserted that it was supported by the same corrupt influences as were formerly opposed to the passage of the pure food and drug bill. The claims made were so specious and so foreign to the intent of the bill as shown by the text that it apparently counted for little. Strong personal influences were however brought to bear in committee for purely selfish reasons and were effective to check progress. We are informed that very recently this opposition has been eliminated by the concerted power of those high in medical councils, and that a bill to be drawn by Dr. H. W. Welch, president of the A. M. A. for the incoming Congress on the same lines as the Owen bill will receive the active support of the head of the U. S. Public Health and Marine Hospital Service, the bureau most affected by the proposed change. The way, therefore, appears clear for the bill in the next Congress and it is confidently expected that a Department of Health with a representative in the cabinet will be created within another year.



## THE SANATORIUM IN ITS APPLICATION TO TUBERCULOSIS.\*

BY S. G. BONNEY, M. D.  
DENVER, COLORADO.

In the effort to develop a comprehensive and well co-ordinated system of management of the tuberculosis problem, it has been repeatedly claimed that the sanatorium constitutes the essential factor in its solution. While all students of phthisiosociologic conditions are united in regarding this as a fundamentally important feature of the campaign against tuberculosis, many are inclined to overestimate its advantages, and a few to exaggerate its deficiencies.

It is clear that institutions for the care of various classes of tuberculous invalids are absolutely demanded to satisfy individual and social requirements. In full recognition of the vast good accomplished, it is nevertheless desirable to institute a careful scrutiny of sanatorium methods and results.

A discussion of so important a subject should be inspired primarily by a desire for rigid inquiry. Professional enthusiasm attending the sanatorium movement has already attained such proportions in the United States as to render it exceedingly difficult to conduct a non-partisan study as to its value and limitations. To withhold a full acknowledgment of its unvarying applicability to all classes and conditions may subject one to the charge of being a hostile critic. While presenting its many manifest advantages, I wish, nevertheless, to submit a few suggestions relative to its apparent defects. Thus in considering jointly the several affirmative and negative phases, it is hoped to disclose more clearly its legitimate scope.

The true mission of the sanatorium is found chiefly in its philanthropic value and economic efficiency. These primary

considerations are properly included under the following subdivisions:

1. The practical utility of the sanatorium in the cause of prevention.
2. Its *educational* influence.
3. Its availability as an important factor in the *therapeutic* management.

The practical utility of the sanatorium in the cause of *prevention*.

There can be no greater obligation imposed upon society than to grant institutional aid to a large number of pulmonary invalids. A pertinent question arises as to the peculiar class for whom sanatorium provision is justly demanded. During recent years the organized work in the campaign against tuberculosis has been chiefly devoted to an awakening of public interest, popular enlightenment as to the causes of infection as well as to effective means of prevention, and perhaps, above all, to the adoption of measures tending to promote the interest of *incipient* cases. Invalids of this character have been offered admission to institutions of a non-charitable nature as well as to those supported by private or public benevolence. It is clear that upon the merits of their condition, patients of this class demand the constant presence of a resident physician far less than the advanced cases. The usefulness of institutions open only to invalids with slight infection and in comfortable circumstances will be discussed in another connection, as such patients are not the most important agents in the transmission of the disease.

From the combined aspect of public benevolence and systematic prophylaxis, substantial assistance should be rendered to unfortunates suffering from advanced pulmonary infection, and to those incapable of self-support, representing definite sources of danger to other members of the family and the community. Wisely directed aid of this kind will result in the frequent saving of life, an enormous alleviating of suffering, added protection to com-

\*Read before the Medical Association of the State of Alabama, Birmingham, April 27th, 1909.

munities and the preservation of vast economic values represented in the restored health and usefulness of innumerable citizens. The sanatorium becomes especially beneficial and useful as a prophylactic agent, therefore, when its privileges are bestowed upon three fairly distinct classes of pulmonary invalids, viz: (a) indigent patients with advanced disease, (b) ignorant and vicious consumptives, (c) impoverished patients with incipient or moderate infection, who, under systematic control and with proper assistance, present reasonable prospects of recovery.

#### INDIGENT PATIENTS WITH ADVANCED DISEASE.

Such individuals undoubtedly represent the chief source of further bacillary distribution, and above all others should be subjected to rigid disciplinary supervision. They not only constitute an oppressive burden to their families, but through their inability to observe hygienic precautions become a constant menace to society. They are almost always denied admission to municipal hospitals. Tuberculosis sanatoria possessing facilities for their care are exceedingly few. Adequate accommodations should be provided in the form of segregation establishments where all possible comforts may be administered through judicious nursing and medical attention. Aside from humanitarian grounds, it is precisely by virtue of their ignorance, destitution and occasional obstinacy that some form of institutional care is demanded. At to its practical beneficence for this group of patients there can surely be no room for difference of opinion.

#### IGNORANT AND VICIOUS CONSUMPTIVES.

Unteachable consumptives belong to an entirely different category from those embraced in the preceding class. While the indigent patient with advanced infection jeopardizes the safety of others through the almost unavoidable failure to comply with hygienic instructions, the roving, shiftless and dissipated invalids represent added

sources of danger. Reckless expectoration and a wanton disregard for other sanitary precautions result in a widespread distribution of bacilli. It should be incumbent upon health authorities acting with proper discretion to insist upon the forcible removal of such individuals to detention institutions. These establishments should provide facilities for the care, instruction and discipline of irresponsible persons who have been notoriously negligent concerning the rights of their fellows. The responsibility for their management and control can be assumed by local communities at a comparatively slight expense. The financial burden for housing may be quite insignificant, and this in many instances partly offset by the performance of light work. A willful and continuous infringement of sanitary laws by homeless, intemperate consumptives surely justifies a somewhat arbitrary effort toward restraint and punishment. On account of their physical infirmities it is clear that jails, reformatories and prisons are not the proper repositories of such offenders. Incarceration in ordinary penal institutions has already been followed by a striking development of tuberculosis among violators of criminal law. Provision for the temporary detention of this highly undesirable class is perfectly feasible either upon county farms or in special wards of other public institutions. In this way practical prophylactic results of far reaching importance may be accomplished.

*Impoverished patients* with incipient or moderate infection, who, with proper assistance, present reasonable prospects of recovery.

Sanatorium aid is eminently practical for this class of indigent consumptives, many of whom as a result of substantial assistance can resume their former positions as wage earners. At the same time individuals, who, in their ordinary environment, are unable to observe precautionary rules

are prevented from becoming new centers of infection in the community.

To render needed assistance to incipient cases of tuberculosis among the poor is indeed a most important function of the sanatorium. It is possible that this represents its chief value, for it bestows undoubted blessings upon a class of people otherwise unable in many instances to withstand the advance of the disease. Climatic change or rational management in the home are usually quite out of the question, and the only alternative short of despair is admission to these truly charitable institutions, especially in the absence of day camps and tuberculosis dispensaries. Through the philanthropic purpose and economic utility of sanatoria the unfortunate but worthy consumptive is enabled to resume the role of bread winner and the state to preserve one of its most valuable commodities, the earning power of labor. It would seem far more imperative for society to extend practical aid to individuals of this class than to provide charitable institutions for non-consumptives who have been impoverished through habits of shiftlessness, dissipation, inherited perversion and doomed to remain a continuous burden upon the community.

An important consideration is the extent to which industrial facilities should be offered to the inmates of state sanatoria. While it is improbable that such institutions may become self-sustaining after the manner of farm colonies, it is likely that the cost of maintenance can be somewhat reduced by the performance of light outdoor work either in the fields or garden, and of handiwork of various kinds upon the porches. Indoor work should be deprecated under all circumstances. Compulsory employment of any kind is not likely to be received with the greatest enthusiasm even by individuals participating in the bounties of state or private philanthropy.

#### THE EDUCATIONAL INFLUENCE OF THE SANATORIUM.

Irrespective of the particular class of patients admitted, each institution for the reception of pulmonary invalids is capable of augmenting the cause of education as applied to tuberculosis in three distinct ways. These relate to the influence exerted upon the inmates, the effect upon the resident physician and assistants, and the instruction indirectly imparted to neighboring communities.

For the individual patients the question of success or failure is often largely determined by the degree of adaptation to new surroundings. Given an environment truly appropriate for selected cases, favorable results may still be retarded if the mental attitude is not in harmony with the opportunities presented. To induce a ready conformity to rational principles of management is often extremely difficult, but is made conspicuously more simple by the fortunate example offered by others.

The effect produced upon the resident physician in sanatoria as a result of intimate personal contact not only with the disease, but with the afflicted individuals, is also instructive to a high degree. There is almost no limit to the possibilities of scientific improvement, social enlightenment and general moral development, when the medical corps are inspired by the high motives which ostensibly permeate such institutions. Through the continuous presence of the physician exceptional opportunities are afforded for close clinical observation.

The educational influence accruing from properly managed sanatoria is not confined solely within the walls of the institution, but is frequently capable of diffusion throughout a wide domain. A distinct enlightenment in communities is often produced as a result of the practical lessons pertaining to hygienic and dietetic living. The importance of measures tending to re-

strict the spread of the disease is emphasized through the force of actual example. There usually results among neighboring inhabitants an appreciable diminution of of the unreasoning phthisiophobia so unfortunately prevalent in recent years. The material lessening in the tuberculosis mortality rate among the resident population of towns harboring closed institutions for consumptives, speaks volumes concerning the dissemination of knowledge relative to measures of prevention.

#### THE AVAILABILITY OF THE SANATORIUM AS A FEATURE OF THERAPEUSIS.

For the sake of clearness this phase of the subject should be considered without reference to humanitarian, prophylactic, economic or educational features. Thus a discussion concerning the scope of the sanatorium as a therapeutic factor is necessarily limited to institutions designed for non-indigent, non-hopeless consumptives regardless of climatic location.

The complete fulfillment of these cardinal features of treatment necessitates the enforcement of a strict disciplinary control, for which unusual facilities are afforded in special institutions. Partly as a result of important details of construction and partly from the presence of a resident physician with a corps of assistants, exceptional opportunities are provided for elaborating the hygienic and dietetic treatment.

The perfected system of management inaugurated in these establishments is not, however, entirely distinctive of the sanatorium, for rational and successful control may be instituted by resourceful physicians outside of closed resorts. Modern methods of management are not essentially different as applied to invalids within or without institutions. It is thus important not to confuse the sanatorium with the so-called "sanatorium regime," which must be maintained under all circumstances.

I dissent from the somewhat frequent as-

sertion that sanatoria are always necessary for the maintenance of systematic control. Residence within a closed sanatorium admittedly offers to a certain class of patients the greatest possible advantages to be attained, but an arbitrary recourse to this is sometimes prejudicial to the best interests of others. Determining features in many instances are temperamental peculiarities, domestic conditions, the stubbornness or delusions of accompanying relatives and other factors inimical to successful management. Not infrequently the influence of home life is responsible for unfortunate laxity of discipline. The possibility of negligence, perversions of judgment on the part of the family, unwarranted petting, condolence and indulgence is assuredly not to be ignored. It is often difficult in such abodes to elaborate a proper regime, the hours of rest in the open air being frequently disturbed by social interruptions. It is sometimes possible, however, to secure an atmosphere of repose and contentment in private dwellings provided with proper porch accommodations and offering facilities for the preparation of suitable food in accordance with individual tastes. This attainment of appropriate conditions and surroundings is permitted only through the interested effort of physicians appreciating the value of such details.

The social conditions within sanatoria are not always such as to promote the happiness and contentment of invalids. A potent influence for good is often found in an occasional judicious change of residence and immediate surroundings. In favorable climates, practical as well as psychic considerations may prompt the establishment of a small temporary household for consumptives, in which well recognized principles of management may be enforced to the great advantage of the patients. If, upon the score of their actual needs, continuous supervision is not definitely indi-

cated, a satisfactory interpretation of the so-called "sanatorium method" is readily permissible in such abodes. For many years I have found that the selection of a residence meeting all requirements as regards location, sunshine, porch-room and out-door sleeping accommodations, the careful selection of a few patients with reference to congeniality, disposition, tastes, stage of the disease and financial status, the presence of a competent housekeeper, form a combination capable of producing most gratifying results. For many cases the advantages of such an arrangement over the sanatorium sojourn are very apparent. Suitable accommodations are thus offered for patients of varying classes, and opportunity is afforded for change of surroundings and environment at different seasons of the year. As a rule the constant attendance of an efficient nurse, in connection with the directing influence of the physician, has sufficed for the maintenance of a suitable regime.

If detailed supervisory control was the only consideration involved in the problem of management, decided advantage would invariably accrue from sojourn in a closed institution upon some remote hilltop. Owing, however, to certain other fundamental features, the inappropriateness of the sanatorium is not infrequent. It is sometimes necessary to accord greater importance to the factors inherent to the individual than to the medical aspects of the tuberculous infection.

The remarkable decrease in the mortality rate from tuberculosis in New York City since 1886 is assuredly not to be ascribed to the establishment of sanatoria, but rather to the comprehensive system of prevention and the administrative ability of the executive health officers. In England and Wales very few sanatoria were in existence in 1885, yet the mortality rate from tuberculosis had already diminished by that year to about one-half of what it had

been in 1838. The proportion is reported to have been 30 per 10,000 in 1855, 25 in 1865, 22 in 1875, 18 in 1885, 14 in 1895, and 11.5 in 1905. The sanatorium movement in England is stated to have begun in 1899.

Croissant not long ago reported that comparatively few cured patients are being discharged from the 87 public and 37 private sanatoria in Germany with 8422 and 2000 beds respectively. He stated that the permanent results exhibited by the management of working classes in sanatoria are no better than those shown by dispensary treatment alone. He calls attention to the fact that this is especially true of patients in the first stage. He states that patients undergoing sanatorium treatment do not survive for long periods after leaving the institutions, but as a rule return to their former unhygienic modes of life. The significance of these statements is emphasized by the fact that something over 50 per cent. of the patients in German sanatoriums are reported to be without tubercle bacilli in the sputum.

A correct estimate as to the usefulness of sanatoria in this country is quite out of the question upon the basis alone of statistical reports. This being the case, the futility of attempting to decide between the advantages of sanatorium life and climatic change is very apparent. As a matter of fact there is no common ground for comparison.

Considerable difficulty attends the formation of an accurate opinion on account of the confused and incomplete records relating to the subsequent histories of former inmates. The evidence appears sufficient, however, to warrant the assertion that a large proportion of the truly incipient cases have secured, through proper methods of living and supervision, an eventual arrest of the tuberculous infection. It is well known from a study of post mortem statistics that this is also not infrequent

even among individuals not favored by such fortunate influences. The complete arrest of tuberculosis is occasionally secured as a result of inherent individual resistance despite unhygienic surroundings, excessive exposure and improper food or clothing. It should be expected, therefore, that many early cases would exhibit gratifying improvement upon simple change of environment and appropriate methods of living, thus reflecting beyond question the beneficent mission of sanatoria. This does not imply, however, that all cases of incipient tuberculosis may be expected to achieve such a termination, although the balance may be turned temporarily in favor of recovery. In this connection it is pertinent to emphasize the fact that vast importance attaches to the incipency of the infection in nearly all cases admitted to these institutions. Patients with extensive infection constitute a decided minority, and from my observation this class upon the whole have not exhibited in unfavorable climates, a satisfactory response to even the most complete elaboration of institutional management. The thought naturally arises, to what extent recourse to sanatorium life is responsible for disastrous delay among cases otherwise amenable to improvement through a wisely selected climatic change. Patients in comfortable circumstances have a right to expect of their physicians such advice as will offer the *very best* opportunity for a restoration to health.

Clinical experience has amply demonstrated that by far the most favorable opportunities are offered in climates appropriate for the invalid in question. It is not designed to exploit the advantages of any single climate as applicable to all cases of consumption, but it may be submitted with propriety that unfortunate results of climatic change may be expected only by reason of fatal procrastination, an injudicious selection or an entire non-conformity

to a suitable regime. In the interests of consumptives it seems eminently fitting to reiterate the value of climate for properly selected cases with conjoined attention to rational methods of living.

The possibility of securing an arrest of the infection at home or within local institutions is freely admitted, but can it be also asserted that this procedure is the one *most likely* to effect a complete and enduring recovery? If not, is it justifiable regardless of climatic location to extol the virtues of sanatorium management to a point above their legitimate plane?

In the midst of the present professional and popular enthusiasm regarding the advantages of the sanatorium, is it not possible that the swing of the pendulum may recede too far from the acceptance of climatic change and result not infrequently in unnecessary delay with its well-known deplorable consequences?

With no derogation of the enormous practical good accomplished by local sanatoria, and urging their continued construction throughout various localities, the plea is entered for rational conservation in their contemplated scope.

### INTUBATION OF THE LARYNX, WITH SUGGESTIONS REGARD- ING ANAPHYLAXIS.\*

BY F. E. WAXHAM, M. D.,  
DENVER.

Nothing in the history of medicine illustrates more clearly the progress made in the healing art, during the past half century than that of diphtheria. One of the great landmarks in the history of this disease is tubage of the larynx.

Many of us can well remember when the laryngeal form of diphtheria was the most fatal of all diseases. Nearly one hundred per cent. of the cases perished. An occasional patient was saved by tracheotomy,

\*Read before the Colorado State Medical Society, Colorado Springs, September 14, 1909.

which, however, was rarely permitted, and occasionally, although very rarely one would make a recovery after expulsion of the obstructing membrane through violent efforts of coughing or vomiting. Today antitoxin is given, a tube introduced into the larynx when necessary to relieve impending suffocation and the patient almost invariably recovers. With the introduction of intubation the mortality was greatly reduced, although it was still great, and finally with the employment of antitoxin in connection with intubation, when needed, the mortality has been reduced to almost nothing. It is more rare to lose a case now, than it was to save one in times past.

The change from nearly one hundred per cent. of fatalities to nearly one hundred per cent. of recoveries, during one man's professional career is certainly a wonderful record of medical progress.

The history of intubation is too well known to require extensive reiteration. The efforts at tubage by Bouchut in 1853 and his failure to establish the operation are well known. While he demonstrated the possibility of tubing the larynx, he failed to make the operation practical and successful. It required the genius and perseverance of O'Dwyer, working independently over twenty-five years later, to place the operation upon a practical and successful basis.

In reviewing the history of intubation we find that Bouchut of Paris first conceived the idea of placing a hollow tube in the larynx to overcome the stenosis from laryngeal diphtheria. O'Dwyer was the first to demonstrate the practicability of the operation and the writer was the first to introduce it into private practice. It was his privilege also to assist in the development of the operation, perfecting the instruments and popularizing intubation so that it became recognized and adopted as a life saving procedure all over the world.

At this late date it is hard to realize the dangers and risks involved in the introduction of intubation into private practice. Many a time my life was threatened for "putting plugs in children's throats to kill them." At one time a coroner was called to investigate one of my cases in order to hold me responsible for the child's death. At another time I was obliged to beat a hasty retreat in order to avoid personal injury. Not only this but many physicians could not understand how intubation could be looked upon as a reasonable or justifiable operation. Many a wordy conflict occurred in the Chicago Medical Society as cases were reported from time to time. Through the support and encouragement of many of my colleagues however I was able to persevere.

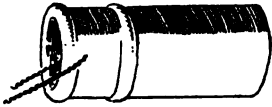
In my first ten cases there were three recoveries. The report of these cases brought many others. The last great controversy over the merits of intubation occurred at the meeting of the American Medical Association held in Chicago, June 1886. It was the writer's privilege to report 136 cases with 37 recoveries, a result superior to those ordinarily obtained from tracheotomy, and yet the merits of the operation were questioned and the operation criticised and condemned in no uncertain terms. It was the most violent attack ever made upon intubation since the time of Bouchut. As a result of the discussion a committee was appointed to visit my cases and to report through the Journal of the Association, the results of their investigation.

This committee visited patients upon whom I had operated; witnessed the operation upon some and the removal of tubes from others and as a result made a most enthusiastic report in favor of the operation. This report will be found in the bound volumes of the Journal of the American Medical Association for the year 1886 and is interesting reading. Since this date no further attacks have been made upon

intubation which has been almost universally adopted in preference to tracheotomy.

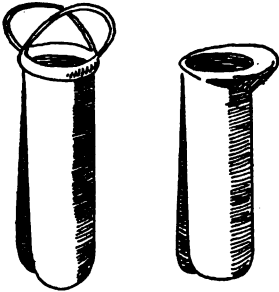
To illustrate the advancing popularity and success of intubation I would state that in my first hundred cases there were but twenty-seven per cent. of recoveries, in the second hundred twenty-nine per cent., in six hundred cases thirty-five per cent.; the last hundred of which gave recoveries of forty per cent. These cases were before the days of antitoxin; since the adoption of which, in connection with intubation, the recoveries have amounted to ninety per cent.

Bouchut's tube was short and cylindrical, not more than three-fourths of an inch in length, simply reaching through the glottis.



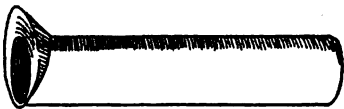
*Bouchut's Tube.*

O'Dwyer's first tube was bivalve, and was introduced closed but when the staff by which it was introduced was removed the blades expanded. The head of the tube consisted of wire covered with gutta percha.



*O'Dwyer's First Tubes.*

This tube was soon followed by one with a metal head.



*O'Dwyer's Third Modification.*

These tubes were soon found to be defec-

tive as loosened membrane would crowd in between the blades causing obstruction, and were followed by a straight hollow tube.

They were short and differed little from Bouchut's tube excepting that they were elliptical instead of cylindrical. The next change was to make the tube slightly longer. The tubes were plain and slender with a slight rim for a head and there was nothing to retain them in position but their weight.

It must be remembered that O'Dwyer's work at this time was entirely among the young weaklings of the orphan asylum, with which he was connected, and was especially discouraging. While he could overcome the suffocation he could not save their lives.

While the instruments were still in this crude and primitive condition they came into my hands through the courtesy of Dr. O'Dwyer in the early spring of 1885. He later congratulated me upon my courage in introducing this operation in private practice, for it was far from being established as a legitimate procedure.

In private practice many difficulties were met with. With my third case the tube dropped through the glottis and was found post mortem in the lungs. This accident demonstrated the necessity of making the tubes with larger heads and this accident has not since occurred to my knowledge. In private practice among the stronger and older patients the tubes were constantly expelled. This difficulty was overcome by making the tubes with a projecting shoulder about three quarters of an inch below the head, and modified later by making a bulge or swelling in the middle of the tube.



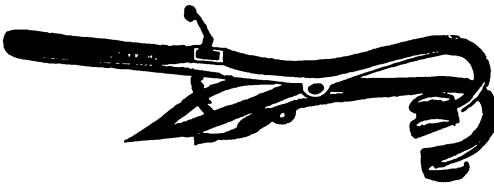
*The Perfected O'Dwyer Tube.*

In the course of time O'Dwyer altered the introducer and extractor and without



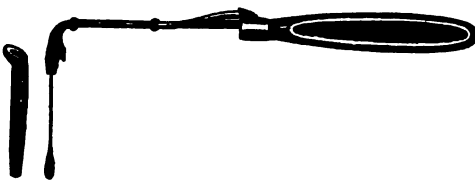
*O'Dwyer Introducer.**The Author's Extractor.**O'Dwyer Extractor.*

changing the principle the writer made a number of alterations in the instruments as a matter of convenience and the original gag which was somewhat awkward and clumsy was made simpler.

*Author's Gag.*

This gag has been in almost constant use for nearly twenty-five years and I find no other more satisfactory.

The introducer was also modified, as I made the obturator to consist of a plain band of steel attached to the handle of the instrument instead of the jointed one of the O'Dwyer instrument.

*The O'Dwyer Obturator.**The Author's Introducer.*

An alteration was also made in the extractor to facilitate the separation of the various parts for disinfection.

Ever since the time of O'Dwyer, others have attempted improvements upon his instruments and methods without apparently bestowing upon them any particular scientific investigation or care, as a result, the market is supplied with many cheap and faulty instruments, constructed in direct opposition to certain details to which O'Dwyer attached special importance. This undoubtedly is due to the fact that, as a result of the use of antitoxin, the tubes can be earlier dispensed with, and accidents, reintroductions and ulcerations do not occur so frequently; any tube that can be introduced and retained for two or three days, no matter what the shape, no matter how faulty the construction, will often tide over the danger period and save a life. He, however, who would meet with the greatest success and save the very largest percentage of cases must use only those instruments constructed according to the rules so carefully insisted upon by O'Dwyer.

O'Dwyer found upon the most careful investigation that there were three points of danger from ulceration as a result of imperfectly constructed tubes. One was at the base of the epiglottis, from the pressure of the head of the tube upon the anterior wall of the larynx. The second at the cricoid division of the larynx as a result of pressure from a tube, the neck of which was too great in circumference or to cylindrical in shape. The third place of ulceration was found to be on the anterior wall of the trachea opposite the end of the tube. The first and last of these dangers was overcome by slanting the

tubes backward from their centers both above and below. The second danger was overcome by constructing the tubes with as thin necks as possible. Very few manufacturers observe these rules of construction today.

For the sake of cheapness the introducer, the extractor and the gag have also been so altered as to make them almost impracticable. Intubation is a most difficult operation for the great majority of men even with the most improved instruments, but with many instruments on the market it would be well night impossible even for the expert.

At present on account of the earlier and more thorough employment of antitoxin intubation is not often necessary. It is only the neglected cases "God's poor," the "devil's poor" and the "city's poor" upon whom we are called upon to operate and yet even in these cases the results are remarkable, yielding almost one hundred per cent. of recoveries.

For the future we predict even greater success. When Colorado joins the ranks of other progressive states and distributes antitoxin free of charge to all the people so that even the poor and destitute can be provided with this life saving remedy we shall expect to see the death rate practically nil.

I can not forbear giving a word of caution regarding anaphylaxis. Anaphylaxis is a condition of hypersusceptibility or hypersensitiveness to certain proteids, occurring in both man and animals as the result of natural idiosyncrasy, certain foods ingested or certain substances injected into the circulation.

It is well known that certain proteids, including milk, the white of egg, horse serum, yeast, and the like when injected into animals will produce a hypersensitiveness to these substances so that if a second administration of these substances is given, weeks, months or years after it will give

rise to serious, alarming or immediately fatal symptoms.

It has been found that guinea pigs can be sensitized by the injection of horse serum and that three years later a second administration of serum will produce immediate death. The offspring of these sensitized animals are also supersensitive to the serum of the horse. I can only briefly allude to these facts but they have a practical bearing upon the subject of diphtheria.

It is known that if antitoxin is given and then after the lapse of ten days up to two years it is repeated alarming or fatal symptoms may ensue. It is not yet known how long the human subject remains hypersensitive. Weaver, of Chicago reports twenty-three cases in detail where alarming symptoms occurred, one case nearly fatal as the result of second injection given after intervals of from eighteen days to two years from the primary injections. I have recently learned of a death occurring in Denver from a second injection of antitoxin but I am not permitted to give the details. It is not the antitoxin bodies that produce the poisonous symptoms but the serum of the horse which holds the antitoxin.

It must be remembered that there are certain diseases such as asthma, hay fever and urticaria that seem to sensitize an individual to serum reaction. This is especially true of asthma. In such individuals as well as those who have previously received antitoxin treatment, the injection of antitoxin is especially dangerous. It is believed that a natural idiosyncrasy exists in some individuals against horse serum, as for drugs, so that in ordinary dose kills.

Although fatal results from the administration of antitoxin are extremely rare there are certain precautions that should always be had in mind. In primary injections give all the antitoxin needed at frequent intervals, every eight or ten hours

in order to prevent the occurrence of anaphylaxis.

Always inquire if antitoxin has ever been previously given even years before, if so give small doses, at least  $\frac{1}{2}$  C. and then rapidly increase.

Always give the purified and concentrated antitoxin, as the danger lies in the serum and not the antibodies, consequently the smaller amount of serum that will hold the antibodies the less will be the danger.

Avoid puncturing a vein, as the danger, proven by experiments on animals, is far greater when the serum is injected directly into the circulation, than when injected into the cellular tissue. It is well after the introduction of the needle to withdraw the piston and observe if blood enters the barrel of the syringe; if so withdraw and introduce the needle in another place.

Always inquire if the patient is subject to asthma, hay fever or urticaria. If so, commence with a small dose .5 C. C. and if no unpleasant symptoms occur rapidly increase the dose. As even a prophylactic dose of antitoxin sensitizes a patient and thus makes a subsequent dose dangerous it would seem wise not to use it for prophylactic purposes excepting in crowded institutions. This is especially wise inasmuch as antitoxin, if given on the first indication of diphtheria will invariably cure the disease.

In case angio-neurotic oedema with urticaria develops, sedatives to relieve restlessness should be given, with internal and external use of bicarbonate of soda or soothing powders containing orthoform. In case the oedema involves the larynx the treatment should consist of applications of ice to the neck, adrenalin hypodermically, and early tracheotomy if necessary. In case of sudden collapse artificial respiration, diffusible stimulants and especially atropine hypodermically are indicated.

It would be most unfortunate indeed if the laboratory discoveries regarding ana-

phylaxis, great and important, as they are, should impair the confidence of the profession in antitoxin.

The number of fatalities from the use of antitoxin, recorded in the medical literature of the world amount to between thirty and forty. It is estimated that all fatalities including those that have not been reported would not exceed fifty in number. This number is infinitesimal compared with the thousands upon thousands of lives that have been saved by its use.

In one hospital alone, the Cook Co. Hospital of Chicago, records show that more lives have been saved, in a single year, than have been lost from the use of antitoxin in fifteen years throughout the whole world. In one city alone, that of Chicago, ten times as many lives are saved yearly by the use of antitoxin as have been lost by its use in fifteen years throughout the whole world. These estimates are made by comparing the present morality from diphtheria with that before the discovery of antitoxin.

Then let us not lessen our confidence in antitoxin but take greater precaution in its use, that we may if possible reduce the small number of deaths that have occurred in the past from its employment.

Since writing the above three cases of anaphylaxis have come to my personal knowledge. I wish to report these cases not for the purpose of detracting from the immense value of antitoxin, for I challenge any man to show greater faith and confidence in the remedy, but for the purpose of emphasizing the necessity of using every possible care and precaution in its administration.

The first two cases were immediately fatal. Death occurred within from three to five minutes after the use of the antitoxin. Both cases were in the same town, a little distance from Chicago. The third case was in my

phylactic dose of 500 units of concentrated serum. Within one minute after the injection of the antitoxin, the young man, an interne in one of our hospitals, was in collapse. His face was of a deadly pallor and covered with cold perspiration. He was unconscious, respiration shallow and irregular and the pulse hardly detectable. Under artificial respiration, strychnia and atropine hypodermically he gradually rallied and death narrowly averted. Had he been given a full curative dose I am convinced that death would surely have occurred.

Recently, the Lederle Company and other manufacturers have discovered a method of producing antitoxin in the form of a solution of globulins instead of serum, which entirely overcomes the danger of anaphylaxis.

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### DISCUSSION.

Dr. Melville Black: Mr. Chairman, this paper is certainly most interesting as well as instructive. It is unfortunate that more are not here who are doing this line of work that it might be fully discussed. The history of this subject shows what a wonderful work has been done in the management of diphtheria. We are greatly indebted to the pioneers who fought so valiantly for effectual means of controlling the dread disease.

Dr. W. A. Kickland: Mr. President, pardon me for referring to an experience that I had in the use of anti-toxin on my own person. Since seeing the experiments here on the guinea pigs and listening to this paper, I can see some explanation of the phenomena which I observed in my own case. Soon after the introduction of the use of anti-toxin we had several epidemics of diphtheria in our town, and it was my practice to use as a prophylactic dose on myself 500 units. One year I used the 500 units with apparently no bad effects. A year or two after, having another case of diphtheria and noticing in my throat a small patch of what I supposed to be a false membrane, I took another dose of 500 units, and almost immediately developed a localized form of urticaria with sym-

ness and dizziness. It was necessary for me to go to bed for two days before I recovered from this second dose of anti-toxin. The make which I used the second time, as I remember, was preserved with carbolic acid, and I attributed the bad symptoms at the time to the carbolic acid in the serum, but from later knowledge it would seem that I had developed a hypersusceptibility and the second dose acted very unfavorably.

I would like to ask Dr. Waxham that should I have to deal with another epidemic of diphtheria and am exposed to the disease, should I take another dose of anti-toxin or not, supposing I develop the disease?

Dr. F. E. Waxham: In the case suggested I would by all means advise a very small dose. It seems that a small dose of anti-toxin when given secondarily, if it is used, overcomes this anaphylaxis in a measure and if a minute dose is borne, then I would suggest a rapid increase to a large dose of the anti-toxin. When a person is hypersensitive it seems that a very minute dose overcomes this hypersensitiveness. According to the reports which I have read from scientific men I think that is true. It is always wise in such cases to commence with a very minute dose and if no unpleasant result occurs from that, then rapidly increase the size of the dose.

Dr. W. W. Wilkinson: What would be a minute dose in this case?

Dr. F. E. Waxham: Not more than one-half a cubic centimeter.

Dr. Kickland: I should like to ask how frequently those minute doses may be given.

Dr. F. E. Waxham: Usually within eight hours. Where hypersensitiveness exists unpleasant symptoms usually arise within a very few hours.

### ACUTE YELLOW ATROPHY OF LIVER—REPORT OF CASE—RECOVERY.\*

BY FRANK W. KENNEY, M. D.  
DENVER.

The following case so well illustrates many of the points in the etiology and clinical features of this disease, which has a high percentage of mortality, and from which recovery is unusual, that it seems well worth reporting.

Mrs. —; primipara; 28 years, in the eighth month of pregnancy, was found to be suffering from albuminuria. Up to this time the urine had been frequently examined with negative results, the last ana-

\*Read before the Colorado State Medical Society, Colorado Springs, September 14, 1909.

lysis having been made five days previously. With the exception of rather marked edema of the ankles during the sixth and seventh month the physical condition of the patient had been excellent. Prior to her pregnancy the patient had always been in good health, was of robust build and active temperament, and inclined to give more than ordinary attention to outdoor life and physical development.

About two months before the beginning of pregnancy the patient experienced a severe attack of indigestion due to hypochlorhydria but soon recovered. The urine at time of onset was heavy with albumin, and the symptoms were those of severe uraemic poisoning; i. e. impaired vision, hemicrania, mental torpor and considerable edema of the hands, legs and face. Heroic treatment was immediately instituted to ward off impending danger, the patient put into a hot pack, pilocarpine and morphine administered hypodermatically, bromides and infusion digitalis by mouth, free purgation and high enemata to stimulate elimination, plenty of water and no food. The immediate results were quiet sleep, relief from the head pain, free stools, increased urinary flow and lessened edema.

During the next 24 hours the patient began vomiting, become very restless, convulsive twitching took place and there was considerable apathy, with intervals of freedom from same, pulse soft and temperature normal, with urine containing about 1 per cent. of albumin quantitatively. The family was advised at this juncture that induction of labor would probably be necessary to save life. Notwithstanding the heroic treatment which had been kept up from the first sign of danger, the patient thirty-six hours from the time of onset had a severe convulsion which lasted some minutes but with no recurrence. Dr. Whitney was called in consultation at this time and it was decided to empty the uterus without delay. Under thoroughly aseptic precau-

tions a bougie was inserted into the uterus. Later Dr. Wetherill saw the patient approved the course adopted and the patient was removed to the hospital. After a few hours there being no attempt on the part of the uterus to empty itself and as the patient's condition was fast merging into coma, she was removed to the operating room.

The difficulties to be overcome in this particular case were a small tight cervix, small pelvis and muscular pelvic floor. Dilatation was accomplished with the Barnes bag, followed by the Sims' speculum after the method first used and reported by Dr. Wetherill, who in person rendered me valuable assistance at the operation, and by the aid of a long incision in the anterior lip of the cervix combined with a double episiotomy, delivery of a living child was accomplished in about one hour. Ether was the anaesthetic of choice.

The patient rallied from the operation in a short time, but four hours later vomited a quantity of coffee-ground material, though no occult blood appeared in the stools. The pulse became accelerated and temperature slightly elevated. The vomiting continued at intervals of six to eight hours and of the same character. Food and stimulants were given per rectum, the bowel however soon becoming intolerant. Pulse 126, temperature 99 degrees, urine sixteen ounces in the twenty-four hours. On the evening of the third day there occurred profuse vomiting with nose bleed followed by dyspnoea. Pulse 145 and thready. Patient unconscious. Whiskey, digitalis and adrenalin by bowel, salt solution in breasts, strychnia, spartein and camphor hypodermatically were given separately and in combination. On the fourth day the patient was very apathetic with muttering delirium, temperature 99 degrees, pulse 120, bowel intolerant and incontinent with passages of bloody mucus, urine increased to thirty ounces in twenty-

four hours, still containing a few hyaline and granular casts with considerable amounts of bile and albumin, the sp. gr. however steadily falling. Jaundice first appeared at this time, the conjunctivae and skin becoming slightly yellow.

Examination of the liver showed upper margin at sixth rib, the lower line at the costal arch. Examinations for leucin and tyrosin were frequently made but none found till the sixth day when a few crystals of leucine were noticed, and at this time there occurred small hemorrhages from the nipples, nose and rectum with a great increase in the amount of bile in the urine. Two days later the urine exhibited crystals of tyrosin. The liver dullness by this time had decreased to three fingers breadth, and petechiae made their appearance in the skin, the bleeding from the breasts and rectum continuing.

Later the urinary flow increased rapidly, the total quantity for the twenty-four hours, ending on the tenth day, being 173 ounces, sp. gr. 1010, albumin relatively less, bile in normal amount, no casts but showing some fat globules. After this time the bleeding ceased, pulse and temperature dropped to normal, the mental strength returned, the urine became normal, the icterus disappeared, liver dullness was increased to about three fourths of the normal and the patient returned to her home in good condition on the fourteenth day. At the present time exactly four years since her illness I find on examination of the liver that the dullness has returned to normal and for the past three years she has been in perfect health.

This subject has received considerable attention during the last decade. The literature published during that time has shown patient research and careful preparation, and considering the fact that this is supposedly a rare disease thereby affording but little opportunity for its study, makes it one of increasing interest. I be-

lieve the data which has been collected to this time will prove fairly conclusive, and we may with reasonable certainty consider it reliable and dependable.

Though the first case recorded was in 1616, nothing very definite concerning this disease was given to the medical world until Bright recognized its nature in 1836, and Rokitsky in 1843 gave it its name; while Buck in 1845 and Jones in 1847 were the first to describe the microscopical changes. Wagner was the first to consider acute yellow atrophy and phosphorous poisoning identical. The Index Medicus has reported 450 cases up to 1905, and from all sources up to the present year the total number probably would not exceed 500. Of the 450 cases reported by the Index Medicus 200 had been collected in the ten years prior to 1905. Considering this rapid increase in so short a time, it is fair to suppose that either the disease is not so rare as is commonly thought or else the profession is becoming more skilled in its diagnosis.

Investigators are quite agreed as to its etiology. The disease is most common between the years of 20 and 30, less than 1 per cent. under ten years of age and very few cases above 40 have been noticed. The proportion of females to males is two to one, and during pregnancy when according to Virchow certain parenchymatous changes take place in the liver and kidneys the liability seems greater. In pregnant women the disease is more apt to manifest itself about the sixth month, but may be noticed as early as the third month. The victims are usually of strong constitution and well nourished. Though Liebermeister considered that the habitual use of alcohol favored hepatic degeneration, and mention has been made by certain authors of the possible relationship of acute yellow atrophy and syphilis, yet the preponderance of opinion so far is, that neither should be considered as causes of this dis-

ease. Lebert, Legg and Thierfelder are credited with the statement that one-sixth of all cases are due to mental conditions.

The primary cause at least, of this disease seems to be a toxemia. The pathological findings are essentially those of eclampsia as regards liver changes following anesthesia, C. E. Campbell-Horsfall, *The Lancet*, 1907 Pg. 680, states, that there is no case on record of acute yellow atrophy following the administration of ether, and quotes statistics to prove his assertions, but takes the position that when chloroform anesthesia is followed by acute yellow atrophy, it is simply the result of a toxemia intensified by the chloroform. His comparisons between acute yellow atrophy and poisoning by the drinking of chloroform are of interest, namely: that the latter shows vomiting, coma, jaundice and dilatation of pupils, while post-mortem findings show degenerative changes in heart, liver, and kidneys, like those found in acute yellow atrophy. This has been proven by many workers in animal experimentation including Northnagel, Toth and Unger. Tileston B. M. & S. *Journal* 1908, Vol. clviii Pg. 510, has reported a case due to prolonged use of mercury, and White in the same issue reported one due to syphilis.

Briefly the symptoms are: loss of appetite, nausea, vomiting, jaundice, fever not constant, drowsiness and delirium. The pulse soon becomes rapid though at first slow, respirations increased, while bleeding from the nose, bowel, and into the skin occurs in more than one-half of all cases, and a rapid reduction in the liver size takes place. Urine diminished in quantity and bile stained, urea greatly reduced. Leucin and tyrosin are characteristic but not constant features of this disease, and both have been found in the liver by Gamgee when none had appeared in the urine during life. There is no pain on pressure. H. G. Wells and Peter Bassoc *Journal A. M. A.*

March 4th, 1905, mention the theory of Sal-kowsky in connection with the process of autolysis namely: that an aseptically preserved organ is capable of digesting itself at a fair rate when kept at body temperature, with products quite similar to ordinary trypsin digestion, including leucin and tyrosin so characteristic of intestinal digestion. This autolysis is shown in a marked way by the absorption of liver tissue in a few days.

The duration of this disease rarely exceeds two weeks, and in the majority of cases reported is from four to ten days duration, the first stage averaging two to seven days, the second from two to five days. The reduction in the size of the liver is variable, usually about one-half or more.

While phosphorous poisoning and acute yellow atrophy resemble each other closely, they yet differ in one essential, namely: that in the first the liver is always enlarged, while in the latter, all the literature on the subject with one exception, has shown the opposite to be the case. At the same time in both diseases fatty degeneration of the liver, heart, and kidneys has been found. This atrophy of the liver is distinctive from all other forms of jaundice as in the common form the liver is always swollen. In phosphorous poisoning there is an infiltration of fat which is increased from five to fifty per cent. In acute yellow atrophy there is a degeneration of the organ with only a very slight increase of fat.

It seems to be an established fact and sufficiently proven, that the jaundice of acute yellow atrophy is due to a toxemia. At autopsy no obstruction of the bile ducts has been found, and the gall bladder usually contains bile. On the other hand Virchow and Osler have both found that an inflammatory process traveling from the duodenum into the ducts of the liver, has resulted in the formation of a mucous plug thereby causing obstruction. An an-

topsy, following an accidental death during an attack of catarrhal jaundice, showed gall tracts distended and the occlusion of the common duct to be due to hyperplasia of the lymphatic tissue in the mucosa of the gut.

The post-mortem findings in a case reported by de Havilland Hall in the *Lancet*, October 13th, 1906, are those commonly found. More or less yellowing of the tissues, hemorrhages in all the organs, liver weight reduced one-third to one-half, capsule thickened, dark red and yellow areas in the liver, bile ducts pervious, gall bladder empty. The yellow portion showed all stages of degeneration; the red showed no normal tissue. From most of the autopsy findings it appears that the yellow areas represent the earlier stage, the red the later stage.

The microscopic examination as reported by Wells and Bassoe, shows necrosis of liver cells, leucocytic invasion, interstitial proliferation and regenerative efforts on the part of the bile ducts in the red far more advanced than in the yellow areas. They also find that the yellow color is not due to fat but to bilirubin, the chief bile pigment. Taylor found that the fat in acute yellow atrophy is about normal, that is, about twenty to sixty grammes, and in fatty degeneration about four to five hundred grammes. A most exhaustive report of the chemistry of the liver by H. G. Wells appears in the *Journal of Experimental Medicine* Vol. 9, pge. 627. The most effective treatment is alkaline infusions and intestinal antiseptics.

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#### DISCUSSION.

Dr. E. W. Lazell: I do not think we should pass this paper by without discussion, and in the absence of Dr. Cattermole I would like to say a few words to see if I can induce somebody to get into more extensive discussion of the subject. The question of diseases of the liver and the diagnostic relation between them and uremia is one which must interest anyone who has to do with patients in a comatose condition. The difference, for instance, between sclerosis of the liver and uremia, and between atrophy of the liver in any of its forms and uremia is a very difficult matter.

When I first began to examine patients in a comatose condition, with a furred tongue and all of the rest of the common symptoms of uremia, contracted pupils and so on, I used to classify them all as uremia. I am now beginning to believe the doctor's suggestion that I was often mistaken and that they were liver cases which I was inclined to call uremic. Unfortunately, these patients are unconscious when we see them, and we cannot get anything in the way of history. I think the history of repeated attacks of vomiting of coffee-ground masses resembling the vomit seen in cancer in a person who has been a drinker for many years, or in a woman who is pregnant, or in a number of other conditions, combined with symptoms of toxemia, hard liver, perhaps an enlarged liver, palpable below the border of the ribs, with a number of other features of passive congestion, especially of the heart and bowels, with a large amount of albumin, with casts in the urine, and especially if we see these cases at night we are in a quandary to know just the exact condition. If we find bile in the urine; if the patient shows any degree of yellow discoloration of the cornea, or if the patient in his unconscious condition is scratching himself or if there are any marks on his body to show that he has scratched himself, I think the differential diagnosis is a very difficult one to make. I have seen a number of these cases lately. The first impression was that they were undoubtedly uremic. But further and more exhaustive study of the case showed them to be cirrhosis of the liver. The connection between a cirrhosis of the liver and acute yellow atrophy is certainly far-fetched, so far as the postmortem changes are concerned, but during life in a patient who recovered the step is not so far. I do not offer this as a discussion on yellow atrophy, but I do offer it as a suggestion that the profession must be ever increasingly on their guard to differentiate the liver conditions from those of uremia. Personally I should like to hear a very extended discussion on this subject. I think we are indebted to Doctor Kenney for a very fine paper, and on a very interesting subject.



**Dr. H. G. Wetherill:** Dr. Kenney was kind enough to send me a copy of his paper, and I made some notes regarding two or three points to which I should like to refer. In the first place, the symptoms in these conditions of yellow atrophy of the liver are, as he points out, due to a toxemia, presenting autopsy findings like those shown in phosphorus and chloroform poisoning, and presenting many like symptoms. At autopsy a small, shrunken, yellowish liver with numerous, often microscopic, necrotic areas is found. This "atrophy" of disorganization of tissue is also found in the heart muscle and in the kidneys.

Concerning the diagnostic points to which Dr. Kenney has called your attention, I should like to emphasize the importance of taking the blood pressure, and I should like to again insist upon the importance of the examination of the eye grounds for retinal changes or hemorrhages. There is one point, however, which all can easily observe, and which is extremely significant as an indication of impending danger, and that is scanty urine. The urine frequently becomes scanty long before it becomes albuminous. A limited amount of highly concentrated urine in twenty-four hours has, in my judgment, serious significance, particularly when associated with high blood pressure. Albumin in the urine is frequently not one of the earliest symptoms. Scanty urine and increase in blood pressure often antedate it.

As to treatment, the really important things are, possibly, bleeding, followed by colon flushing and infusion of salt solution, or even direct transfusion of blood. But the one thing I find of the greatest importance is the free use of the alkalies, that is the free use of bi-carbonate of soda solution and stomach washing. Again let me suggest the importance in these cases of giving no chloroform and if possible no opiate, because chloroform produces like symptoms and lesions and the opiates interfere with elimination.

**Dr. F. W. Kenney:** I presume there is no doubt in the minds of the profession that acute yellow atrophy is more common than we are wont to believe, and in closing I would like to press home the point, that the profession so acquaint itself with this disease clinically and pathologically, as to be able to differentiate more clearly between it and other toxic conditions presenting much the same symptom group, but which will be found to differ in some particular. The hemorrhages (not always present) and the rapidly-shrinking liver of acute yellow atrophy may be the only means of deciding against uremia. The late high fever of acidosis or acetonuria, occurring in poorly nourished nervous patients, with no hemorrhages, but with acetone or diacetic acid in the urine, and presenting at autopsy a fatty but not shrunken liver, serves to draw the line between these conditions and acute yellow atrophy. We shall probably in the next few years learn a great deal more about these different toxemias than we now know. I thank the gentlemen who have so ably discussed this paper.

## THE DIAGNOSIS OF GALL STONE DISEASE.\*

BY J. N. HALL, M. D.,  
DENVER, COLORADO.

One of the diagnostic surprises of the past decade has been the discovery that gallstone disease is clinically vastly more common than we had supposed, although the frequency of gallstones postmortem was long ago recognized. Typical cases are easy of diagnosis, but they are in the minority.

I have recently analyzed the symptoms in 50 cases of gallstone disease coming to operation, of which I had good histories, and in which no such serious complication existed as would prevent a fair analysis. From this study and from experience with many other cases I shall state the signs and symptoms of gallstone disease in order of relative frequency and importance about as follows:

Pain in 94%. Tenderness over gallbladder 84%. Nausea, vomiting, sour stomach and other digestive troubles 66%. Rigidity over gallbladder region 56%. Fever, generally irregular 54%. Marked loss of weight 52%. Jaundice (at some period of the illness) 48%. Tumor (gallbladder or liver) 26%.

The typical pain begins in the epigastrium or just to the right of it, and commonly extends toward the left of the abdomen or else through to the spine and especially to the right scapula. It is, when characteristic, sudden in onset, and appears typically after a full meal when peristalsis causes the gallbladder to attempt to empty itself, or after the recumbent posture at bed time, perhaps because of the influence of gravity and the changed direction of the gall ducts.

The pain is extremely severe in most instances, and is described as griping, tear-

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ing, expansive, bursting, etc. It is often accompanied by chill, sweating, vomiting, or even symptoms of collapse. The most characteristic extension is to the right shoulder blade, though the joint and even the deltoid muscle may be given as the seat of greatest severity. In many cases it is fairly confined to the epigastric region. Its rather sudden onset and cessation, severity and location are fairly diagnostic. It lasts from a few minutes to several hours.

Its sudden cessation comes from relief of tension within the gallbladder, due to passage of the stone, retreat of the stone from the duct to the gall bladder or the stopping of the spasm of the duct by the use of morphine, chloroform, etc.

We must note, however, that in many cases of disease of the gall passages the pain is not caused by the passage or attempted passage of a stone but by an associated cholecystitis or cholangitis, or by adhesions resulting from previous attacks. The more the pain departs from the typical character mentioned the more likely is it that it is due to other causes than the simple passage of a stone. It is important to note that rarely the common duct may be blocked by stone without the slightest manifestation of pain at any time, as occasional cases of my own have proven.

A slight tenderness may nearly always be detected over the gall bladder, generally accompanied by some degree of rigidity. It is much more marked in the inflammatory conditions mentioned than in simple cholelithiasis, unless the latter be accompanied by distention of the gall bladder from obstruction. If extremely acute it signifies a local peritonitis.

Jaundice, when present with other signs, is almost pathognomonic. Because of its decisive value the physician is inclined to wait for its appearance in any doubtful case. Since it is found practically only in cases of complete obstruction of the common duct, we shall overlook most cases of

stone in the gall bladder, the cystic duct, and most of those of stone in the common duct where obstruction is not fairly complete, if we await its appearance. 10 or 15 per cent. of cases of stone in the common duct have no jaundice.

The sallow color of many subjects with digestive troubles must not be regarded as jaundice. A definite yellowing of the conjunctive is necessary for the diagnosis.

The variations in intensity of the jaundice found in ball-valve stone at the outlet of the common duct are well recognized. If accompanied by repeated chills, with fever and increasing discoloration, the diagnosis is fairly certain.

Nausea, belching, sour stomach and vomiting occur in many cases of gallstone disease. The belching of gas often gives temporary relief. A persistent anorexia, with extreme repugnance to food, drink, the use of tobacco, etc., is occasionally noted.

In a small proportion, (26 per cent. of the cases we are studying) an enlargement of the gall bladder or the left lobe of the liver is to be made out. Courvoisier's statement that a large gall bladder indicates obstruction from tumor, pressure from without or some cause other than stone, is well borne out by clinical experience. The gall bladder is extensible through the accumulation of bile if its walls are normal. If they have been thickened by chronic inflammatory processes accompanying cholelithiasis, however they do not as a rule yield to the pressure of bile within.

The enlarging gall bladder oftentimes drags along with it, as it were, a tongue of liver substance—the so-called Riedel's lobe from the free edge of the liver. It is less globular than the distended gall bladder and may at times be diagnosed before operation.

The whole liver enlarges in certain cases of cholelithiasis, but especially in those ac-

accompanied by a more or less permanent blocking of the common duct with damming back of the bile. Some degree of fever is usually noted here since an infection of the stagnant secretion often develops. Pain and soreness are then present.

Loss of weight is not notable in gallstone disease until the attacks occur with such frequency as to interfere with eating and digestion, or jaundice with its accompanying anorexia appears, or infection of the biliary tract develops. It may then amount to 20 or 30 per cent, of the normal weight.

In connection with long continued jaundice we often see a secondary eczema and long scratch marks. In cases examined by artificial light the latter should always prompt an inquiry as to the existence of jaundice.

Yellow patches of xanthoma, seen about the inner canthus of the eye, and occasionally on the arms, hands and elsewhere, are decidedly suggestive of chronic gall bladder disease.

**DIAGNOSIS.** It is not at all necessary to the diagnosis of gallstone disease that one should have the typical picture of colic, tenderness, jaundice, etc. In patients beyond the middle of the third decade chronic digestive disturbances with pain, without material loss of weight, sour stomach, persistent vomiting, hematemesis or melena, but accompanied with rigidity and tenderness in the epigastrium at certain times, should lead us to suspect gallstone disease rather than to make a diagnosis of gastralgia, hepatalgia or other neuralgic disturbance. An increasing familiarity with the findings in the operating room leads the clinician more and more to the belief that some definite organic change is at the root of practically all the troubles in the abdomen, so long regarded as neuralgic.

If the symptoms are persistent and troublesome, exploration is imperative if medi-

cinal treatment is not followed by relief in a short time.

We commonly regard gallstone colic without jaundice as due to cystic while jaundice leads us to the conclusion that the common duct is blocked, yet large stones may remain in the common duct for months or years without giving rise to jaundice. Intermittent fever, varying jaundice and alternations in the amount of bile in the stools are almost pathognomonic of ball-valve stone. I believe the extremely fatty light colored stools which float in the closet bowl are indicative of blocking of the pancreatic duct in addition to that of the common duct of the liver.

The failure to find gallstones after attacks of colic seriously weakens the diagnosis in the opinion of many practitioners. Colic, however, is so commonly present when fairly large stones exist in the gall bladder, and is so commonly due to cholecystitis without stone or to adhesions, that the negative evidence of not finding the stone in the stools is of no especial weight. The X-Ray is certainly of no such assistance here as it is in the diagnosis of urinary calculi.

The passage of a single globular or oval stone showing no facets, with relief of all symptoms, should of course lead to the postponement of surgical measures.

The finding of a stone more than a cm. in diameter or of several stones, (even hundreds, as in one of my cases,) should lead us to think that perforation of the gall bladder into an adjacent loop of bowel has taken place. Intestinal obstruction in one who has had gallstone colic is not infrequently due to the lodgment of a single large stone, escaped by ulceration in the small intestine.

We should consider briefly the consequences of neglected gallstone disease, for they are neither recognized nor appreciated as they should be. We may have chronic thickening of the gall bladder wall, dilata-

tion of the ducts, obliteration of the common duct, infection of the stagnant bile, gangrene of the liver, abscess perforation into the peritoneal cavity, stomach or other organs, subphrenic abscess, ulcer of the duodenum, cirrhosis of the liver, extension upward through the diaphragm to the pleural cavity or lung, perforation of the pericardium, suppuration in the lesser peritoneal cavity, development of cancer of the gall bladder or ducts,  $2\frac{1}{2}$  per cent.) intestinal obstruction from impaction of stone or from adhesions, pyloric obstruction from adhesions or from spasm, chronic pancreatitis and various less frequent troubles. Entirely quiescent gall stone disease may be neglected, but no one can study the long list of serious complications following active disease here without realizing the danger of inaction.

It is likely that for every patient lost through operative intervention in gall stone disease, a dozen die of some of the secondary troubles mentioned. We should strive to make the diagnosis before the advent of jaundice, secondary infection, abscess, cancer, etc., changes the case from one entirely hopeful to one almost wholly desperate.

#### DISCUSSION.

**Dr. C. B. Lyman, Denver:** I regret not having heard all of the paper, but I was called upon in the surgical section for a paper. From what I did hear of the paper and from what I know of Dr. Hall's ideas on the subject of diagnosis of gallstones I feel sure the subject has been covered much more thoroughly than I or anyone else could hope to do.

The diagnosis of gallstones, from my experience, is a difficult matter for so many of our cases, (I think fully fifty per cent. of the cases of gallstone disease which I see), do not have symptoms which are laid down as classical by most of our present writers. I have one case which illustrates this particular point very clearly. This woman, whom I operated, had one fair size gallstone in the gall bladder which had produced only one symptom and I could get no history of any previous attacks or trouble which could be referred in any way whatsoever to the gall-bladder region, and that was intense pain in a localized spot in the back directly opposite the location of the common duct. She had never had gallstone colic. She had never

had pain in the abdomen, and the only thing that I could find outside of the severe pain in the back was a localized tenderness, very slight in degree, over the gall-bladder region. An operation was made upon the existence of that symptom and we found one single, large stone. Of course, it is a well known fact that the autopsies show many, many cases of gallstone disease in which the patients have never had any symptoms referable to that locality. In all these cases where there is the least question of doubt early operation is the only safe proposition, for, as the essayist says, delay is in many of these cases responsible for the serious complications which may arise.

**Dr. H. T. Pershing:** I would like to call attention to cases in which the pains of tabes simulate gallstone pain. We may have a tabetic simulation of renal colic, of gastric ulcer and also occasionally—not very often but in rare cases—of gallstone disease. Of course in such cases it is important to know the true nature of the pains. The test of the knee jerks, examination of the pupils, of the ability to stand steadily and to walk with closed eyes will usually settle that question within a few minutes. It is wise, at any rate, to keep tabes in mind in all of these cases.

**Dr. C. D. Spivak:** The study of the diseases of the upper half of the abdomen is now going through a transitory period. What we know about cancer and ulcer, for instance, some ten years ago with reference to their definite symptomology is now becoming less and less definite.

The diagnostician finds when he comes to a case that he must use a great deal of intuition, and the more a man has had experience in diagnosing cases of ulcer, cancer and gallstones he will find that it is not based on the well known cardinal symptoms, but to a certain subtle combination of symptoms. To the general practitioner who has not had a great deal of experience with these cases it will seem that the diagnostician is somewhat superhuman in making out in certain cases the diagnosis of, say, gallstones. The physical examination in gallstone disease, except when the gallstones are so numerous and so large that you can palpate them, does not help much. The X-ray, in my experience, has not shown any gallstones. I have not had cases of gallstones by the thousands, but the cases I have had and which I sent to the X-ray men never revealed a gallstone. I would like to ask Dr. Hall whether he has had better results with the X-ray.

There is one little clinical test that I would like to call the attention of the profession to, which, although I have called attention to it on former occasions, seems to be still unknown and I never hear it mentioned. Any disturbance in the gall bladder, whether with or without gallstones, will be shown by an examination of the urine by the sulphur test, which reveals the presence of biliary acids. I never saw a case of disturbance in the gall bladder that this test did not show up. The test is very simple. All you have to have is

a little sublimed sulphur, a test tube and the urine. Put the urine in the test tube and float a few grains of sulphur on it, and if there is any disturbance in the gall bladder the layer of sulphur will sink down as soon as it touches the surface of the urine, and in no other case will it show. I have made quite a number of experiments with various urines, thousands of them, and with other fluids, and in none of those fluids and none of those urines from any other cases would the sulphur sink down as soon as it touches the surface of the liquid.

**Dr. W. W. Grant:** To my mind the chief value and interest of Dr. Hall's paper is in disclosing, or bringing to our attention the fact of the common errors and difficulties attending the diagnosis of gallstone disease. It is a well known fact that the diseases of the lower abdominal quadrant are much better understood and much better treated by both physicians and surgeons than the diseases of the upper quadrant, involving stomach, gall bladder and pancreatic diseases. There is no field of medicine or surgery today which is receiving more general consideration than these diseases at this time, and none in which it is more decisively needed. The trouble with the general practitioner, and many surgeons, is that they rely almost entirely on two or three symptoms of gallstone disease, chiefly gallstone colic and jaundice. Now as a matter of fact, there is no more serious error than this. A large proportion of these cases never have real gallstone colic, and unless there is an accurate study of the clinical history of these cases aided with instruments of scientific precision, if you please, you will always have these difficulties in making a diagnosis; when if it were studied scientifically and clinically, well, the diagnosis can generally be arrived at by a good clinician. Since the late Christian Fenger of Chicago demonstrated the presence of ball-valve action of stone in the common duct, we readily understand why it is that the gallstone may remain in the common duct for an indefinite time without producing jaundice. Obstruction of the cystic duct alone does not produce it, and in many of these cases we have simply a distended gall bladder without jaundice due to the obstruction of the cystic duct and without the usual and ordinary symptoms of gallstone disease. Furthermore, if we take into consideration the common causes of gallstone disease, infection from the colon, or the Eberth bacillus, we can have, generally, some idea from this history as to the predisposition to gallstones. Taking this with the thickened, tenacious mucous of the gall bladder and we have the two common predisposing causes of gallstone disease. There is no more necessity or excuse for so many patients dying from diagnostic errors and delayed surgical treatment in this disease than in diseases of the appendix. That tentative and eclectic measures may mitigate conditions, with great self-denial on the part of the patient, is not to be doubted, but it is equally true that the only safe and per-

manent relief in both is from surgical intervention.

**Dr. Leonard Freeman, Denver:** The surgeons seem to be somewhat in evidence in this medical section, but I think surgeons have a right to speak upon this paper of Dr. Hall's, because it is to Dr. Hall that the surgeons in Colorado often go for their corroborative diagnoses. There is no more difficult thing to diagnose than certain cases of gallstones. Dr. Hall mentioned the kidney in this connection. It is perhaps not generally recognized that mistakes are fairly frequently made between kidney troubles and gallstone troubles, and especially is this true of movable kidneys. I can think of two or three cases at the present time in which such a mistake was made. One case in particular may be mentioned, which Dr. Hall saw with me. An operation was made for gallstones or stomach difficulty, but the symptoms continued afterwards. The individual was operated upon later in another city, for a movable kidney, and the symptoms disappeared. It is perhaps in connection with a movable kidney as often as anything else in which such mistakes in diagnosis will be made.

Now how can we avoid making this error? Within the last year or two a method has been worked out by which we can absolutely avoid making such a mistake, if we take the trouble to use the method. It is possible in every case of suspected kidney trouble, unless there be some special contra-indication, and particularly is it possible in women, to catheterize, through the cystoscope, the ureter and dilate the pelvis of the kidney with boric acid or with normal salt solution. If one has had some experience with the cystoscope this may easily be done without much discomfort. As soon as the pelvis of the kidney is dilated to a certain point—with a normal individual this is perhaps about 7 to 10 C.C.—the patients experience pain. You do not have to prompt them. They say immediately, "It is the old pain I have always had," or, "It is an entirely new pain from the one I have usually experienced," and you are able to decide then with certainty as to whether the pain which the patient experienced say in the region of the gall bladder really originated in the gall bladder or whether it came from the kidney.

The question of intuition which Dr. Spivak has raised is of course important. But intuition is a pretty poor thing to guide us in the exceptional case, and it is the exceptional case that is pretty sure to turn up just when we don't expect it and just when we don't want it.

Dr. Grant has referred to the supposed fact that there is no jaundice in cases of obstruction of the cystic duct. I beg leave to differ with Dr. Grant. There is jaundice in very many cases of obstruction of the cystic duct. It is not a marked jaundice, but it is there, with yellowness of the conjunctiva. It is not due to obstruction by the stone itself, but to coincident swelling of the common duct.

**Dr. W. T. Little, Canon City:** I would like to ask one question of Dr. Hall before he closes

the discussion. Dr. Spivak said in his remarks that examination reveals practically nothing, and I would like to ask Dr. Hall if during the attacks of gallstone colic there is not almost invariably some increased resistance or palpitation in the right rectus muscle in the upper quadrant. It may be slight, but is it not there? Dr. Hall referred to this in his paper, and I would like to ask him if it is not nearly always present.

Dr. C. E. Tennant, Denver: Unfortunately I did not hear the paper, but I want to confirm the observation which Dr. Freeman has made with relation to the jaundice occurring when the stone was in the cystic duct or gall bladder, the oedema occurring about the cystic duct producing pressure on the common duct. I do not know whether it has been spoken of or not, but two points have occurred in my observation that were rather interesting to me. One was a stricture of the cystic duct, the stone probably having passed at some previous time leaving a definite stricture of the cystic duct, with ptosis of the gall bladder. The other is the ptosis of the gall bladder occurring independently of stone and even of adhesions, the indefinite symptoms of which often simulate those occurring in gallstone disease, especially the digestive disturbances, constipation and other symptoms which are commonly found with gall stone disease.

Dr. J. N. Hall: I appreciate very much the discussion, especially by my surgical friends.

I will first take up some of the questions which were asked. In the first place as to the degree of tenderness I should differ somewhat from Dr. Spivak's statement regarding the absence of signs. I note in the paper that eighty-four per cent. of the cases had definite tenderness over the gall bladder and fifty-six per cent. had definite rigidity. As to the rigidity at the time of the attack, my own notion is that it is always present. I saw a woman an hour and twenty minutes before I took the train to come up here who had a perfectly definite history of gallstone colic with jaundice and she had very definite rigidity. I think it is always present.

As to feeling the stone, we have to be sure that it is a stone. I saw, a dozen years ago, with Dr. Freeman, a man who had a stone as large as a walnut, and I thought I was sure beyond any question. I was never more surprised in my life than when an operation was performed and it was discovered that it was a cancer on the very edge of the liver, which which was removed and the man is still living, an engineer on the Burlington road.

As to the question asked by Dr. Garwood: I am not able to say definitely the per cent. of cases of stone in the common duct not showing jaundice but think ten or fifteen per cent. With the stone in the common duct there will be enough other signs, I think, generally speaking, so that the absence merely of the jaundice, which occurs in less than half of all the cases of stone, would not at all, as I see it, defeat the diagnosis.

I think Dr. Pershing's remark as to tabes

is well taken. A patient was sent to me a little while ago with a letter saying that he evidently had gallstones and ought to be operated. As he came into the room he staggered and half fell across the chair. I asked him to cross his legs. I noticed he had no knee jerk. Then I said to him, without any preliminaries: "How long since you had syphilis?" He hesitated, and did not seem to want to answer the question. But finally he said: "Doctor, I had syphilis when I was seventeen years old, but for God's sake don't tell the doctors in the town I came from, for none of them know it!" The pain came from tabetic crises.

As to the X-ray, I have had no benefit whatever from it in gallstone disease.

I think we ought to try in these cases for a working diagnosis and not a pathological diagnosis. I saw a doctor a little while ago who had such symptoms, with loss of forty-five pounds in weight, with pain and nausea, that there was no question that he must have one of three things, either cancer of the pylorus, gastric ulcer or gallstones. He had the two latter, and is cured by operations. If we had waited for an absolutely definite diagnosis we should never have cured him, I am afraid.

## INTESTINAL OBSTRUCTION—WITH REPORT OF CASES.\*

BY FRANK FINNEY, M. D.,  
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In this paper I shall devote most of my attention to the clinical aspect of the disease, rather than to its history, etiology and pathology.

Early diagnosis and prompt surgical treatment are of prime importance. The medical treatment of obstruction is so generally disappointing, that valuable time should not be wasted in its employment. True obstruction may be the result of any lesion that obstructs the lumen of the intestine. The paresis of the muscular wall, which results from sepsis in certain forms of peritonitis, such as distention paralysis following a septic appendicitis, can hardly be regarded as a true obstruction. Obstruction may be acute, or chronic.

Acute obstructions are caused, as a rule, by mechanical lesions not associated with disease, except in cases of neoplasm which may have existed for some time, and then

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suddenly become acute. The more common causes of acute obstruction, are intussusception, volvulus, internal and external strangulation; kinks and flexures; impaction of foreign bodies; adhesions from former surgical operations in the abdomen, or from adhesions, the result of former inflammatory processes.

Chronic obstructions occur as the result of pressure from neoplasms; inflammatory processes accompanying intestinal ulcerations; cicatricial strictures, etc.

It is not always easy to separate the causes of acute and chronic obstruction, as the latter may at any time become acute.

**DIAGNOSIS**—Symptoms of acute obstruction are sudden and severe pain, with vomiting or great and persistent nausea; generally diarrhoea passing to constipation; distention and shock varying in severity with the cause. The above symptoms more or less rapidly give place to graver symptoms such as accompany general peritonitis and bowel necrosis in some forms of obstruction, notably volvulus and intussusception.

It is of importance to determine the cause of obstruction, but I believe in the majority of cases, this is impossible, and practically it does not matter much, for that can be determined when the abdomen is opened.

**TREATMENT**.—Palliative, or medical treatment, in acute intestinal obstruction, is justifiable only in exceptional cases. When an acute obstruction is suspected, an exploratory operation is justifiable and in most cases imperatively demanded. When you have the train of symptoms—pain, nausea, vomiting and shock, with rigidity of the abdominal muscles, you may be sure of a serious internal abdominal lesion of some sort, demanding operation, and the sooner this is resorted to, the better chance the patient has for recovery. Time wasted in waiting for a positive diagnosis at this stage, may be fatal: about the

only exception to the rule would be in case of volvulus or intussusception, and even in these cases, surgical treatment offers a surer and more prompt relief.

In case surgical interference is determined upon, the operation should be done at once. Incision should be made in the median line if the point of obstruction has not been determined, but if the point of obstruction is apparent, then the incision should be over that point.

The following cases from my own practice, will illustrate what I have endeavored to set forth in the foregoing lines.

**CASE 1.**—Miss W., of Las Animas. I was called over phone by Dr. Dulin, of Las Animas, on Monday morning, November 11, 1907. The doctor informed me that the case was one of intestinal obstruction and, he thought, would require operation. I went to Las Animas the same morning, prepared to operate. Found the patient a young woman of nineteen, single, stenographer by occupation. She had been ill since Thursday, the 7th instant; was taken with cramping pain in abdomen, bowels constipated. The lower bowel was emptied by enema and some cathartic medicine given, from which no result had been obtained. She remained in this condition until Sunday, when she had called in the doctor. She had seen the doctor at his office on Thursday. The doctor gave her more cathartic and ordered another enema, all of which failed of result. Vomiting became a prominent symptom. When I saw her she had developed a tumor in the right hypogastric region, soft to touch and dull on percussion. The rest of the abdomen was rather flat, not distended. She was immediately prepared by myself, as no trained nurse was obtainable. We improvised an operating table in the kitchen and sterilized water, etc., on the kitchen stove.

**OPERATION.**—Made incision at right border of right rectus, as that appeared to be nearly over the most prominent part of tumor. When peritoneum was opened, a small amount of straw-colored serum escaped, a quantity of distended small intestine was allowed to come out, and I soon located the obstruction about a foot from the ileocecal junction. The obstruction consisted of a firm, fibrous band, through which a large loop of small intestine had slipped, and which, becoming filled with fluid, had produced the tumor. When the band was severed, the contents of the loop immediately passed on, and the flat, collapsed portion below filled out. The strangulated portion of intestine was pretty dark, but soon regained its normal color, and after pouring the abdominal cavity full of normal salt solution, the abdomen was closed. The patient made an uninterrupted recovery.

**CASE TWO.**—January 20, 1908. Mrs. S. A.

T., of Las Animas, age twenty-seven, married two and a half years, one miscarriage. In September, 1907, had a severe illness lasting two or three weeks; was thought at the time to be either appendicitis or acute inflammation of right ovary. Developments at operation proved that at that time she had suffered an extrauterine pregnancy with rupture. Present illness two days; sudden pain right side of abdomen low down, with inability to get any action of bowels; marked distention of abdomen, much pain and anxious expression. Rejected everything given by mouth. This was Dr. Hardy's patient. Upon examination, I advised immediate operation. Prepared by myself, we operated again in a kitchen.

**OPERATION.**—Abdomen was opened along right border of right rectus. A large quantity of straw-colored fluid escaped, and a large section of distended small intestine was allowed to come out. Found the seat of obstruction well down in right side of pelvis, the cause being an adherent small intestine to the right ovary and a tumor consisting of the extrauterine pregnancy and a clot or mole about the size of a medium-sized orange. This mass was brought up into the incision, the adhesions broken up and separated with considerable difficulty; when this was accomplished, the obstruction was completely relieved. The tumor was now clamped off below and separated and removed. Patient's abdomen was filled with warm normal salt solution, and closed. She made a perfect recovery. I removed the stitches on the 9th day.

**CASE THREE.**—R. R. L., sent into hospital from Raton; age 28, married; U. S.; admitted to hospital March 2, 1908. Condition diagnosed by physician at Raton as appendicitis. Had been ill four days; gave history of sudden and severe pain in abdomen, with vomiting and constipation. Patient restless and anxious but not vomiting. Put to bed and nothing given by mouth. Enema of turpentine and egg ordered given by high tube; no result. Same was repeated several times without result. The next day, March 3rd, he was advised that operation was necessary, that we thought he had a complete obstruction. He consented and was operated at 1:45 p. m., March 3rd.

**OPERATION.**—Abdomen opened, right border of right rectus. When peritoneum was opened, a large amount of straw-colored serum escaped; also a large section of greatly-distended, dark, small intestine. The obstruction was easily located about twenty-four inches from ileocecal junction in small intestine and was very firm and complete. It consisted of a firm band about one-fourth of an inch wide, attached to mesentery on both sides of the gut, and had evidently existed for many years, and had gradually grown tighter and more dense until it almost completely shut off the lumen of the gut. It was picked up on both sides by hemostats, and divided. When it separated, a long, appendix-like diverticulum popped up, and was found to spring from the small intestine. It was about three and a half

inches long and one-fourth of an inch in diameter. This was clamped with a Ferguson clamp, purse-string suture put in, and after amputation, the stump was buried in the gut. The real appendix was now sought and found at its usual location at the head of the cecum, and was removed. The belly was now filled with warm normal salt solution, and closed. We encountered considerable difficulty in returning the distended bowel, but finally got it all back and closed in good shape. Upon examination, the appendix-like body, removed, proved to be a true Meckel's diverticulum, and was patent to its point—I passing a probe to its end. The patient was put to bed and had two voluntary movements of the bowels within four hours. He made an uninterrupted recovery. This patient, after his reception into the hospital, did not display the typical symptoms of obstruction, but, I presume, he had done so before coming in, and had completely emptied his stomach.

**CASE FOUR.**—March 27, 1908. R. Fernandez, Mexican; 23; single; sent in from Raton, New Mexico.

**HISTORY OF ILLNESS.**—March 27, 1908, had been very ill for seven days before coming to hospital. Abdomen greatly distended, patient very restless and anxious, retained nothing in stomach.

**OPERATION.**—March 28. The operation was through right border right rectus. When peritoneum was opened, a large quantity of straw-colored serum flowed out, and a large section of greatly-distended and darkened small intestine. The intestine was covered in many places by plastic lymph. The obstruction was easily found and consisted of a band of perforated omentum, through which a large loop of small intestine had passed. This was ligated and cut between ligatures. We experienced great difficulty in returning the distended bowel to the abdominal cavity, but it was finally done and the belly filled with warm normal salt solution and closed. The patient did not rally from shock, and died within twenty-four hours.

**CASE FIVE.**—Mary Rogan, telegraph operator, married, age forty, admitted to hospital from Crews, Colorado, February 22, 1909.

**HISTORY OF ILLNESS.**—Was operated in St. Joseph, Missouri, September, 1908, for some septic condition of pelvic organs, probably pus tubes. Recovery after long period of drainage. Present illness.—Had been having increasing difficulty in getting bowels moved, and two days previous to coming to hospital, had failed entirely. An enema was ordered and repeated without result. Symptoms of obstruction became more pronounced, and she was operated February 24, 1909, incision over left rectus the site of a pronounced tumor. A complete obstruction of the small intestine was found due to adhesions, and was relieved by tying off and cutting numerous adhesive bands; in breaking up adhesions the intestine was torn and had to be repaired. Following the operation the obstruction was completely relieved, and gave no further trouble.



but the spilling of bowel contents in the wound produced a serious septic condition in the muscle and fascia of the abdominal wall, which gave us a great deal of trouble. The patient finally recovered sufficiently to go to her home, but died shortly afterward. I was unable to ascertain the cause of death.

**CASE SIX.**—July 19, 1909. Mrs. D., Las Animas, Colorado, married, age 35. Was called to see this patient in consultation.

**HISTORY.**—She gave a history of having had extensive abdominal work done in Denver about two years previously. Present illness dated back for some months.

**SYMPTOMS.**—Those of gradually increasing chronic intestinal obstruction. Her abdominal wall showed scar of former laparotomy some eight or ten inches long, region of right rectus. Some internal adhesions bound this scar down at one point. I advised this patient to go to Denver and place herself in the care of the surgeon who had operated her before, as he would know best what the conditions were, having been in the abdomen before. Have not heard the result of my advice.

### DISCUSSION.

**Dr. George W. Miel:** I have been following this report of Dr. Finney (it represents an experience that I congratulate him upon), with the intention of discussing it, but have found nothing to discuss. The doctor has operated these patients, as he should, at the earliest possible moment, and the success attending his operation in the cases cited is greater than common, considerably so. Dr. Finney is certainly to be congratulated on his pluck and courage in going ahead as he has under circumstances that were not at all what a surgeon would like to have.

That brings me to a matter that I will take a few moments to elaborate upon. Moynahan has stated at the beginning of his article on intestinal obstruction that a surgeon who is called to deal with a case of acute obstruction is confronted by one of the gravest and most disastrous emergencies. After a physician enters upon his work, and separating himself perhaps from others, has to depend upon himself, or at least feel that he must account his own judgment better than that of the one or two others in that town, these questions of intestinal obstruction intrude and must disturb many a night's sleep. Anyone who has consideration for the welfare of the community can hardly escape a great deal of serious thought connected with this subject. It might be called the *bête noir* of the physician. There is nothing that is more dreaded by the average physician or surgeon, and there is nothing perhaps that gives him more to think about, or puts him more on his mettle. In real obstruction, some of the cases that Dr. Finney described, the first three, are those that some of us would prefer to have to deal with. We never know in going into the abdomen what we may find, and we would like to be prepared in such a way as to cope with the condition and have all the necessary assistance and detail for op-

eration available. For that reason, it is harder, much harder perhaps, on the physician or surgeon in the smaller place, than it is on a surgeon in Denver, say, where he could depend on others more experienced, as I have had to do in several instances. The matter of diagnosis might be touched upon a little further. I think the matter of the use of purgatives has been pretty well settled; that while purgatives have been used very commonly and persistently they are being relied upon less, to the advantage of the patient. In the matter of irrigation of the bowel, I think that a persistent effort is more in order than that which is usually made. By that I do not mean an effort which would place the patient necessarily in hazard. I think it requires a great deal of intelligence. It is easy to push a long rectal tube through the bowel wall. On several occasions I felt like giving up after ineffective effort with water assisted by posture, but substituted oil, leaving it for a time, with advantage, and impaction was overcome in those not uncommon cases connected with ulceration. I will not take up any more time, but I would be glad to hear others speak upon this subject. I hope they will discuss it thoroughly. It is a subject that ought to be so discussed. It is so important that it should be taken up in a symposium.

**Dr. J. N. Hall:** This is a matter of considerable importance. I want to say just one word about diagnosis. I think I have had reasonable luck in making diagnosis of cases of obstruction in a good many ordinary things like vulvulus, intussusception, different forms of hernia, strangulation by bands, Meckel's diverticulum, foreign bodies, etc., and from peritonitis and tumors within and without the bowels. But there are two things that I have never yet made a positive diagnosis of beforehand. One is obstruction from a growth within the mesentery. There are symptoms of gradually increasing obstruction, until finally it becomes necessary to open the abdomen; and yet none of us were able to get any very close idea of what the cause of that obstruction was. It seems, as you might say, almost symptomless, so far as any direct evidence goes. The other thing of which I speak is thrombosis of the mesenteric vessels. I have seen this a number of times, for instance, in connection with cirrhosis of the liver, and once or twice in connection with some form of poisoning. One case occurred this last winter which I saw with Dr. Freeman. A man had eaten some putrid fish that had been preserved with formalin, and some of that fish was vomited up nine days afterwards, still undigested. That man had, I presume, what we would speak of as a sort of ptomain poisoning. About the obstruction of which we speak I do not doubt it is a toxic paralysis for a time, and eventually thrombosis of the vessels extending upward. Those cases I think are likewise almost impossible of diagnosis. However, one who goes on the principle that a person with intestinal obstruction, unless he is moribund, must be opened and explored, will get around them all right.

Dr. Leonard Freeman, Denver: I agree with Dr. Miel that this question is of sufficient moment to entitle a number of us to speak upon it. The great majority of deaths that occur from intestinal obstruction are due to intestinal poisoning, because the operation is done too late. Hence it should be our object to operate early. This is very nice, theoretically, but practically there are a great many cases in which the operation must be done late. Hence, we have to face the situation. In doing these late operations I think our object should always be to do just as little as we can and to operate quickly. This is important to keep in mind, and it is important to speak of it to the family beforehand and even to the patient himself. If we get into a case, for instance, and have made up our minds that we are going to resect the intestine or that we are going to do some other remarkable thing, it has a psychological influence on our work; and I know from personal experience that we are liable to extend our work a great deal farther than is judicious under the circumstances. But if we explain to the patient and the people beforehand that we will do just as little as possible—that we may, for instance, make only a fecal fistula or that we may have to do a secondary operation to complete our work, this might help us in saving the life of the patient. The least thing we can do, probably, is to make a fecal fistula, and this we should always have in mind in bad cases. The next easiest thing we can do is the short-circuiting of a distended portion of the bowel into a contracted portion. This should be done frequently, I think, in these cases. Many lives would be saved if, instead of trying to disentangle the bowel, or resect a narrow portion, we would simply couple two portions of the bowel together. I have in mind two cases I am perfectly sure I could have saved if my ambitions had not been too great.

The writer of the paper did not mention, I believe, one very prominent cause of intestinal obstruction that we meet with quite frequently, and that is intestinal obstruction from an abscess within the pelvis or some other portion of the abdominal cavity. Such cases should not be treated, I think, by opening the abdominal cavity at large, but should be treated by opening the abscess itself, which, in the great majority of instances, relieves the obstruction and relieves it promptly.

Another point which he did not dwell on, which I think of very great moment, is the emptying of the bowel. He mentioned in two of the cases, at least, the great difficulty that he had in putting the bowel back into the abdomen, and in another case he mentioned the desirability of wearing cotton gloves, because it was hard to push the bowel back into the abdomen. Whenever it is hard to push the bowel back into the abdomen it should not be pushed back by force but the bowel should be opened, in order to let out the gas and the toxic material, and then the opening sewed up and the bowel can be put back quite readily.

It is also one of the objects of the operation—to get rid of this toxic material.

I regard such a paper as Dr. Finney has written as being of much importance, because it calls our attention again to this matter, and I think too much attention cannot be given to it.

Dr. Finney: I recall a case which I would have included in the report of cases had it been a case of my own. It was one in which I assisted a fellow practitioner and was of great interest; a child eight months old, with intussusception. The doctor in charge made an immediate diagnosis of that condition. It was easy to make, when he had the matter in mind, as he evidently thought of it the first thing and examined and found it. The child was taken sick at about midnight. The doctor was called about one o'clock in the morning and made out a tumor in the child's belly. The child was taken suddenly ill, taken in the night, awoke the mother with screaming, and the doctor, after making the examination went to his office to look up the subject of intussusception, came and got me out of bed and took me down there to confirm his diagnosis. The result was the child was taken to the hospital at 8 o'clock the same morning, and the belly opened. It was as pretty a case of intussusception as I ever expect to see, almost the entire small intestine was in the big intestine, the intussusception having taken place at the ileo-cæcal valve; and at that early time, within six or eight hours of the time of the occurrence of this intussusception, there was already plastic matter thrown out and adhesions. But it unravelled out very nicely, the wound was closed up and the child made a beautiful recovery. This case occurred something like a year and a half ago, in the practice of Dr. Stubbs, a fellow practitioner in La Junta.

I thank you, gentlemen, for the kind discussion of this paper.

## Progress of Medicine

### INTERNAL MEDICINE

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### CIRCULATORY FAILURE IN ACUTE INFECTIOUS DISEASES OF CHILDREN, CAUSES AND TREATMENT.

Dr. John Howland (*Bos. Med. & Surg. Jour.*, May 12, 1910) discusses at considerable length the fact that there is such an unfortunate lack of unanimity among physicians regarding the efficacy of various drugs in the circulatory failure of

acute infectious diseases—particularly of children. In fact many seem to have lost faith in drugs altogether in this condition. He does not believe that this is due to therapeutic nihilism so much as the fact that the underlying pathological conditions are not fully understood. Early in the last century, fever was looked upon as the cause of the circulatory failure. However, Stokes, after careful investigation, came to the conclusion that it was due to cardiac weakness. This position was largely supported by Laennec, Louis, Virchow, Hayem, and others. It was found that during the early acute period of infectious diseases, the lesions were almost wholly of a parenchymatous nature—while later interstitial changes dominated the picture.

Late in the century there was a reaction against this idea, and investigators began to look more closely for a pathology which was more uniformly in accord with clinical facts. It was pointed out that in most cases the heart sounds remained clear and strong to the very end, and that the increased frequency was merely compensatory. Dieulafoy suggested the neuromyolytic reflex. It was shown by the sphygmograph that the pulse curves were almost identical to those produced by the nitrites. About this time Krehl carried out some experiments which proved, to a surprising degree, the power of these degenerated, and particularly, fatty hearts. These experiments proved the enormous factor of safety with which the heart is endowed. A host of investigators at this time proved that the heart was not primarily at fault. By the following unique experiments, they were able to determine in what case the heart was at fault and furthermore, that the majority were due to failure of the vasomotor center. By strongly stroking the blood upward from the abdomen, it was forced into the right heart, and at the same time largely prevented from returning from the heart by

the arterial route. This caused immense rise in blood pressure, provided the heart was able to sustain the rise. It was further found that the same rise could be induced by certain sensory irritations of the skin and mucous membrane; for instance, faridazation of the nasal mucous membrane, which called forth a reflex from the vasomotor center in the medulla. Now then, in the animals which were overwhelmed by germs or their toxins were still able to produce the rise in pressure by abdominal massage, but not to any great degree by reflex stimulation from the nose, etc., especially in the later stages of the intoxication. It was further proven that the vessels themselves were not affected, by intravenous injection of barium chloride, which caused a marked contraction of the vessels, and a rise in blood pressure, proving therefore that neither the heart nor the blood vessels were at fault, but the vasomotor center in the medulla. Practically the only exception of this is in diphtheria, where the heart muscle seems primarily impaired.

Various drugs were tried for their effect in stimulation of the vasomotor center. Alcohol when given in sufficient doses to produce any appreciable effect, caused an inhibitory action, and they still further lowered the pressure. Crile found that in shock, a condition much like that of ordinary circulatory collapse, alcohol in small doses had no effect, and in large doses increased the danger. (These experiments, however, are not dealing with the question of the food-value of alcohol.) The use of either was found to be as fully unwarrantable. Nitroglycerin, and the nitrites, produced only harm. The results of the work upon strychnine were not quite so unanimous, but the majority found it ineffectual, but does not, like the others, do harm. The beneficial effects of digitalis were very slight, exerting itself mostly as it does upon the heart and blood

vessels, but probably only to a slight degree upon the medullary center. It was found to be slow in its action, and not lasting in its effect. However, if given early enough, it may do some good by causing the heart to compensate, in a measure, for the empty arteries. Caffeine was found to be by far the most efficient remedy, and the empirical use of coffee, in severe collapse, sustained. It has a marked, prolonged, and constant effect in constricting vessels by central action, and is readily soluble and absorbable. Camphor stood next in action. The infusion of salt solution and the injection of adrenalin were found to be temporarily helpful, but adrenalin should be used with care where the heart is not sound. For instance, it was found that, of the animals poisoned by diphtheria toxin, those to which adrenalin was administered died more quickly than did the control animals.

These results have been confirmed as far as possible upon the human being, caffeine was found to act within from one to three hours, camphor much shorter, and more uncertain in its action.

The author in his own work in the children's wards of Bellevue Hospital, found that cold air was the most constantly satisfactory therapeutic measure by which pressure could be raised and maintained. There was found to be a constant difference of from ten to fifteen mm. of mercury between the patients indoors and those treated upon the balcony. The sicker the child, the greater the difference. He concludes that "The importance of cold air as a tonic to the vasomotor apparatus can hardly be over-emphasized; its effect is certain, constant, and soothing."

O. M. G.

#### TUBERCULOUS INFLAMMATION OF THE THYROID.

Poncet and Leriche (*Bull. de l'Acad. de Med.* No. 43, 1909). Tuberculosis of the thyroid seems to be rare, while non-specif-

ic changes in the thyroid in tuberculous subjects are rather common; our authors contend that on a closer analysis it will be found that the lesions are due to the specific infection. Most common of these changes is sclerosis, which may begin very early in life, and the resulting hypothyroidism may contribute materially to the development of the phthisicus habitus. Inflammatory tuberculosis of the gland may be the cause of struma or there may be a diffuse thyroiditis and not rarely in the young struma, slight scoliosis, intermittent albuminuria and apical tuberculosis are associated. The thyroid reaction may not go beyond a simple congestion and the development of a very hard tumor involving the entire gland suggesting malignancy.

Of infectious diseases, tuberculosis is the most common cause of Basedow's Disease. A patient with typical Basedow, double apical infection and reacting positively to the serum test, was materially helped by removing one-half of the thyroid. In spite of the fact that the extirpated gland showed neither tubercle bacilli nor tuberculous follicles, Poncet and Leriche credit the Basedow to the tuberculous infection. From those observations they conclude that "inflammatory" tuberculosis very often causes changes in the thyroid with resultant changes in function (increased or diminished function), and that on the other hand these changes in the thyroid are suggestive of tuberculous infection even in the absence of the usual or rather more commonly recognized manifestations of the disease.

W. J. B.

#### SURGERY

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#### PATHOLOGY AND CLINICAL SIGNIFICANCE OF STOMACH ULCER.

W. C. MacCarty (*Surg. Gyn. and Obst.*, May, 1910), gives the following resume

from a study of the material from two hundred and sixteen operations for ulcer, and carcinoma, and carcinoma of the stomach in the Mayo clinic.

1—Ulcers may be single or multiple and in different degrees of extension in the same specimen.

2.—After the initial destruction of the mucosa, there is definite deepening of the ulcer by necrosis.

3—This deepening is sufficiently slow to allow a dense connective tissue barrier against perforation to be formed.

4—Ulcers heal, perforate and become malignant.

5—Perversion of the glandular elements occurs in the submucosa and the cells then invade the submucosa.

6—One cannot say positively that all carcinomata of the stomach have developed on an ulcer, because carcinomatous tissue in the base of an ulcer may be an ulcerated primary carcinoma.

7.—The length of the clinical history is no positive index of the extent of the lesion.

8—The absence of blood in the vomitus or gastric contents at the time of laboratory analysis when associated with gastric symptoms is not evidence against the presence of ulcer.

9—Absence of hyperacidity at the time of gastric analysis is also no evidence against the presence of ulcer.

10—Clinically, with our present means of diagnosis, it is impossible to say that a gastric ulcer is not malignant.

11—The intimate relationship between irritation in the appendix or caecum and gastric disturbance may have some bearing in the etiology of ulcer.

H. C.

#### TERMINAL ARTERIAL ANAESTHESIA.

J. Louis Rausohoff (*Annals of Surgery*, April, 1910) gives the technic of terminal anaesthesia as follows: The main artery

supplying the part to be anaesthetized is exposed under infiltration anaesthesia. An Esmarch strap is now bound about the limb some distance above the point of proposed injection into the artery. This is snug enough to constrict the veins, but not so tight as to interfere with the arterial circulation. From 4-8 cc. of 0.5 per cent. cocaine in normal saline solution is injected into the artery in the direction of the blood stream. After anaesthesia is complete the Esmarch may be tightened if perfect haemostasis is desired. At the end of the operation the Esmarch is removed and the wound closed. He thinks this method particularly applicable to the upper extremity where the arteries may be exposed with little difficulty.

He reports two cases—one an operation on the hand and the other on the foot. In both cases the anaesthesia was perfect. He considers it a terminal anaesthesia; the small terminal nerve filaments being supplied by the artery. The author performed several experiments upon dogs. In one he injected the cocaine into the carotid artery and found that the dog retained consciousness and was mentally normal while there was perfect anaesthesia of the scalp.

F. W. B.

#### THE SPONTANEOUS CURE OF CANCER.

Guthrie McConnell (*International Clinics*, Vol. 2, 20th Series) goes over some of the literature on spontaneous cures occurring in cancer. He thinks that the toxic bodies that cause disturbances in an individual are largely of a proteid nature and can be destroyed by the action of ferments or enzymes. According to Buxton, who investigated the enzymes in 30 malignant tumors, it was found that amylase and lipase were almost always present. Boiling destroys the action of these ferments.

There are two factors of importance in the protection against invasion of tumor cells: (1) The protective ferments of the

invaded body. (2) The enzymes of the tumor cells capable of exerting an antolytic action. In the regression of tumor nodules the process may be largely due to the setting free of autolytic ferments as the tumor cells die from imperfect nutrition.

Czerney has reported seven cases in which the tumor did not recur or had remained latent for years after an incomplete operation for the removal of the growth. Daniel reports eleven cases of cancer of the stomach, in which gastro-enterostomy was done, that were well for varying lengths of time—the longest being fourteen years.

There have been numerous other cases reported—the latest being Hodenpyl's case. In this case there was an accumulation of serum in the abdominal cavity. He injected this fluid in small quantities into human beings and obtained gratifying results; necrosis, and often absorption of the tumors, taking place. This action seemed to be due, not to an antitoxic nature, but rather to a lysis of specific cells.

F. W. B.

#### GYNECOLOGY AND OBSTETRICS

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#### LARGE HERNIAS OF THE LINEA ALBA.

Henkel (*Archiv. f. Gyn.* 1909, band 88, s. 457) gives his method of operating upon large hernias of the Linea Alba. He makes a transverse incision through the skin and subcutaneous fat, which exposes the fascia in front of the rectus muscle the inner border of which he locates and opens the sheath on each side by a vertical incision about 1 c. m. within the medial border of the rectus. The inner borders of the sheath thus freed are sewed together in the median line. Following this, the inner borders of the rectus muscle are sewn, and, then over them the external fascia. He claims this operation gives a firm muscu-

lar support, and in the procedure the peritoneal cavity is not entered.

#### EARLY RISING AFTER OPERATION.

Hofmeier (*Zentral. f. Gyn.*, 1909, No. 1, page 121) doesn't believe that allowing patients to get up early after gynecological operations or labor reduces the frequency of thrombosis. His opinion is based upon 289 operations for fibroid tumor—in which series there were 6 cases of thrombosis;—three after supra-vaginal or total abdominal hysterectomy, twice after vaginal hysterectomy, and once after ovariectomy. There were three deaths:—one from tetanus, one from peritonitis, and one from pulmonary embolism. Hofmeier believes that the diminution in the number of cases of thrombosis recently is not due to a change in the after treatment, but is a sequel of greater technical skill and more rigid asepsis, and to the use of spinal anesthesia. In 10,000 cases of labor, there were 12 cases of thrombosis, without any deaths.

#### PRIMARY CANCER OF THE FALLOPIAN TUBE.

Norris (*Surgery Gyn. & Obstetrics*, March, 1909, page 272) reports a case of primary carcinoma of the tube of which there are 86 such cases on record, three occurring at the Johns Hopkins Hospital. The author's case is the only one which has occurred in the service of the University Hospital among 2020 gynecological specimens, including nine cases of cancer of the uterus. Norris has found eight cases of secondary cancer of the tube, five of which were primary in the ovary, and three in the uterus. It is usually unilateral, but once in every four or five cases it will be found to be bilateral. The tumor may be of the papillary or alveolar type,—the former being the more frequent. The condition is usually preceded by inflammation and may occur as the degeneration of a benign papilloma, though is usually primarily mal-

ignant, has rapid growth, and, gives early metastasis. Symptoms are, watery, blood-stained leucorrhea, a typical hemorrhage, and usually occurs between the ages of 40 and 50. Examination reveals a condition simulating inflammatory diseases. A tube which is the seat of cancer usually resembles a hydro-salpinx until the contents are examined; and when operating upon a patient for pelvic inflammatory disease, who is of the cancer age, the author states the tube should be opened before the abdomen is closed, and, if a papilloma is found, a radical operation be performed.

#### REPORT ON VACCINE THERAPY IN GYNECOLOGY AND OBSTETRICS.

J. Whitridge Williams, E. B. Cragin, and F. S. Newell (American Gynecological Society, Thirty-fifth Annual Meeting, May 3rd to 5th, 1910) comprised the committee that made this report, and stated that the available evidence at present seems to justify the following conclusions:

1—Opsonins undoubtedly play a part in the production of active immunity. The determination of the index is, however, technically difficult and subject to variation. To such variation that, even among trained bacteriologists, it is not available as a diagnostic or prognostic guide, and there is skepticism as to its practical value.

2—Immunization by means of vaccines is a well established prophylactic measure against certain diseases, notably typhoid, cholera, plague and dysentery. Vaccine therapy is of undoubted value in local infection due to tubercle bacilli and staphylococcus; of less value in other pathogenic bacteria, and of doubtful efficiency in acute general infections.

3—In chronic gonorrhea, arthritis and urethritis, it is a valuable adjunct to other treatment, and occasionally, leads to a cure alone. It is apparently useless in acute infections, its particular efficiency being in the treatment of vulvo-vaginitis

in children, but, even here, it is not always to be depended on.

4—Infections of the urinary tract, especially those due to a colon bacillus, sometimes results in a symptomatic cure, rarely, however, relieving the bacteriuria. Scanty reports concerning pyelitis and pyelonephritis of pregnancy indicate that vaccine therapy is no more efficient than treatment by rest in bed and the administration of urotropin, as in neither does the bacteriuria disappear until after the termination of pregnancy.

5—It has appeared to reinforce the curative influence of curettage in certain cases of endometritis. Concerning its use in pelvic inflammatory diseases, the reports are too scanty to justify conclusions, but it would seem that only in chronic postoperative cases with sluggish fistula formation, is it of value.

6—As the ordinary localized puerperal infections, irrespective of the nature of the offending bacteria, tend to spontaneous cure, the field for vaccine therapy is practically limited to acute general infections. It, unfortunately, appears to be of little value, and the most that can be said from the reports thus far available is that its employment does no harm. C. B. I.

#### DERMATOLOGY

Edited by  
A. J. Markley, M.D.,  
Denver, Colo.

#### SYPHILIS ACQUISITA TARDA.

Grindon reports (Journal of Cutaneous Diseases, June 1910) a case of untreated syphilis in which the first cutaneous symptoms appeared twenty years after the infection. The patient, a highly intelligent physician, presented himself for treatment of certain lesions on the face which were evidently syphilitic and were quickly healed by specific treatment. He stated that twenty years previously he had been infected during the delivery of a woman with active lesions, and a chancre had de-

veloped on the right index finger. Carefully watching for weeks, months, and then years, revealed no signs of skin or other constitutional manifestations, until the appearance of the lesions on the face.

#### EPITHELIOMA FOLLOWING TRAUMA.

Henrich (Munch. Med. Woch. 1910 No. 3) reports the case of a weaver who had on the upper arm a large scar from an old burn. Within a space of 14 days he received, from his loom, two severe blows upon this scar, and within a few weeks afterward an epithelioma developed. The patient refused operation, and two months later, a conservative operation was impossible and the arm was disarticulated and the axilla cleared out. Within a short time the patient died from a recurrence.

The author has no doubt that the trauma played an important part in the development of the cancer, although the old scar formed a very favorable base.

Extensive scars, particularly in persons past middle age, and so situated as to be easily subjected to mechanical injury or irritation, are frequently the sites of cancerous degeneration, and should always be carefully protected or kept under observation.

Whatever be the active cause of the development of cancer, scar tissue very evidently forms a favorable basis, because of its low vitality and its lack of regenerative power; and it is, no doubt, because of this fact that recurrence is so frequent in those operative procedures which are followed by a large amount of scar tissue, on account of suppuration or healing by extensive granulation.

A. J. M.

#### EAR, NOSE AND THROAT

Edited by

Wm. C. Bane, M.D.,

Professor of Otolaryngology, Denver and Gross College of Medicine.

C. E. Cooper, M.D.,

Denver, Colo.

#### THE CYTOLOGY OF CHRONIC MIDDLE-EAR DISCHARGES.

White and Klotz (The Laryngoscope,

May, 1910) state that "The importance clinically of a chronic discharge from the middle ear has long been recognized. The fatality of the intracranial complications, septic meningitis, extradural abscess, brain abscess, or sinus thrombosis, which may originate in such a condition, must impress all with the desirability of preventive treatment." The authors have endeavored to group their cases in order to give, if possible, a reliable guide for the management, and also when the radical operation should be advised. Most of the cases have run some years before an otologist is consulted, hence have the stamp of chronicity and have passed the stage for bringing about normal conditions.

The cases are divided into three groups, all having a permanent perforation in the drum-head that allows of secretion from the Eustachian tube into the middle ear. In the first group the disease is limited to the region of the tube. In the second there are also chronic inflammatory changes in the middle ear. The pathological changes of the middle ear. The third group show more destructive changes have taken place in the middle ear, and the most important of them are complicated with cholesteatoma. The treatment varies with the class. Two objects are to be attained: "(1), to insure the safety of the patient against any possible danger of intracranial complications, and (2), to arrest the discharge if possible. "Treatment in the first group is conservative. In the other two groups the treatment varies from the conservative to the radical. The inflammatory changes are from swelling of the submucous layer to more or less desquamation of the epithelium. In the prolonged type proliferation of the submucosa occurs and a condition is produced. The mucous membrane in the ears is so changed that a return to the normal state is rarely brought about. "It is the epidermisation of the middle-ear spaces which forms the basis of the chole-



teatomatous condition frequently met with in middle-ear suppuration. It is now recognized that the destructive characters of cholesteatoma arise purely from the retention of inflammatory productions and that the pearly masses sometimes found are only the products of desquamation of the epidermis which has invaded the middle-ear spaces." Laboratory examinations of specimens were made without information as to the condition of the ears. Cell counts were made in the clinically classified groups. There was but little uniformity in the cell counts of the different types. "The one prominent feature which is noted is that the polymorphonuclear leucocytes are almost constantly in the greatest number." The authors state that from the numbers of the polymorphonuclear leucocytes and of lymphocytes they were not able to find any parallelism with the clinical features. They were led to the conclusion that the sytological examination of the ear exudates does not, save in the case of cholesteatoma, give any definite information as to the nature and site of the lesion, nor can the prognosis be foretold by this means. The conclusions were drawn from the examination of twenty-five cases.

W. C. B.

## *New Members*

Chas. A. Hansen.....Boulder, Colo.  
 Wilbur Lucas.....Pueblo, Colo.  
 Margaret A. Fleming.....Florence, Colo.  
 Minerva Knott.....Canon City, Colo.  
 A. R. Scott.....Strong, Colo.

## *Deaths*

C. B. Richmond.....Denver, Colo.  
 B. K. Ellis.....Greeley, Colo.

In the death of Dr. Charles B. Richmond, which occurred July 1, this society has lost a valued member, and the community a valued citizen.

Abrupt and even gruff in manner at times, born of almost incessant activity in the practice of our profession, he proved considerate and kind; and with unusually bright mind and keen sense of humor, was ever cordially welcome among a host of friends.

His life was unselfish and filled with hardships; the poor probably knew him best. He labored diligently and well. In truth it may be said of this man—he was a good physician.

Signed:

THE PHYSICIAN'S AND SURGEON'S CLUB OF  
 DENVER.

## *Correspondence*

EXTRACT FROM A LETTER TO A DENVER  
 FRIEND FROM DR. A. ZEDERBAUM.

June 11, 1910.

Greetings to you from St. Blasien, one of the most beautiful corners of the glorious Black Forest.

I am literally enchanted with my present place of residence, and should enjoy its charms even more were I not too often reminded that I was forced by sad circumstances to make it my temporary home.

I shall not attempt to describe the fascination of this special part of Germany, as my pen has not been trained to reproduce a panorama of that grandeur and attractiveness. Many of talent have approached that task with gratifying results, but I doubt whether even they have always succeeded in doing full justice to the unique scenery of the world-famed "Schwarzwald."

Our Sanatorium is located on an elevation overlooking a large valley and the opposite hills which are from top to bottom covered with woods. The valleys as well as the hills are studded with quaint cottages, churches, public buildings and gardens. The ensemble makes a picture that one never gets tired of both admiring and enjoying. The Sanatorium proper is an immense building of imposing architecture and perfectly answers its purpose. The rooms, verandas and balconies are spacious and procure comfort to the patients. The sanitary conditions of the institution are excellent. Every detail is looked after by a little army of trained servants.

The Sanatorium is housing about one hundred and twenty patients, among them representatives from many countries. We have even a young man from Brazil. They are all people of good breeding so that it is a pleasure to associate with them. It was consequently not hard for me to soon make myself at home amidst such lovable individuals.

The main feature of treatment at the Sanatorium is the "rest cure," carried through in that way that the patients are ordered to spend daily from six to eight hours outstretched on elongated chairs in special outdoor halls called "Liegehallen." These halls are long roofed galleries nestling in the thickest parts of the pine woods, just in the rear of the Sanatorium with which they are connected by bridges. The patients are covered with blankets, and a special man is all the time with them to look after their needs and comforts. It is no punishment by any means to spend the hours in that position, in such a pleasant environment. From our cushions we see nothing but the venerable trees which harbor a regular orchestra of singing birds. We chat with our neighbors, we read or doze or meditate, so that the time passes away quickly and quite pleasantly. At 10 a. m. and at 4 p. m. a little lunch is served, consisting of bouillon, with Zweiback or sandwiches. We are visited by the doctor at noon and around 5 p. m. Once a week we are weighed, and once in two weeks re-examined. Treatment with drugs is not much patronized at the Sanatorium. Even tuberculin is given only to those who ask for it or who have had it before. But we get alcohol frictions early in the morning, pine-needle baths and hydropathic treatment for which the arrangements are up-to-date and very elaborate. The food is ample and good, and daintily served in a very attractive dining room.

This is in a few words the sketch that I can give you of the place where I so fervently hope to be put back on my feet. I have done remarkably well for the twelve days that I have spent in St. Blasien. I am, for instance, permitted to take walks twice a day. In the beginning I used to get played out almost at once but now I can walk for an hour without feeling any bad effects from the exertion. My horrid shortness of breath of Denver days is almost gone. I can eat better, and have gained the first week one and one-half pounds.

You ought to see the beautiful roads and walks here as elsewhere in the Schwarzwald. The incline is everywhere a gradual one so that one climbs a high hill without even knowing it. The roads are smooth and kept really clean. Every twenty to thirty steps you come across a bench for resting. And the views that they open to your eyes are really beyond description. No wonder that my mood is now most of the time of a rather cheerful character.

Living at the Sanatorium is quite expensive, but we get plenty for the money. I expect to remain here until fall. What is going to become of me after that period, I do not as yet know myself.

## Constituent Societies

### BOULDER COUNTY.

The regular monthly meeting of the Boulder County Medical Society was held in the University Dispensary, Thursday evening, May 5, 1910.

The meeting was called to order by the president. The minutes of the last meeting were read and approved. It was voted to discontinue the post-graduate work until September.

The address of the evening was delivered by Dr. George Neuhouse, of Denver, on Epilepsy. The paper was very instructive and was followed by an interesting discussion.

There being no other business, the meeting adjourned.  
C. GILLASPIE,  
Secretary.

On May 13th the annual banquet and program of the Boulder County Medical Society was held at Boulder.

The program consisted of a symposium on typhoid fever, which was taken up as follows: Etiology, Symptomatology and Diagnosis, by A. L. Kennedy, Denver.

Treatment, with Especial Reference to Dietetics, Dr. W. A. Kickland, Fort Collins.

Surgical Diagnosis of Gall Bladder Complications, Dr. Leonard Freeman, Denver.

After the papers, the discussion was opened by Dr. Carrol E. Edson, of Denver, followed by a number of both visiting and local men.

The banquet was held at the Seven Gables, and was well attended by the members and their wives. The speaker of the evening was Professor Libby of the University, who spoke on "Psychotherapy from the Psychologist's Standpoint."

Among the visiting doctors were Doctors Freeman, Lyman, Kennedy and Edson, of Denver, Doctor Corwin of Pueblo, Dr. W. A. Kickland of Fort Collins, and William Shields of Greeley.

C. GILLASPIE.

The regular monthly meeting of the Boulder County Medical Society was held in Boulder, Colo., Thursday evening, June 2, 1910. The meeting was called to order by the vice president, Dr. Trevillion. The minutes of the last meeting were read and approved.

Dr. Whitman, at Dr. Gilbert's request, presented the post mortem findings in three cases of cancer of the stomach and also the findings at operation of a case of cancer of the stomach. After Dr. Whitman had explained the pathology of the cases, Dr. Gilbert gave the clinical history.

Dr. Charles A. Hansen was elected a member of the society.

A resolution was offered by Dr. Ella Rhodes concerning the action of Dr. Hugh L. Taylor regarding the quarantine of a diphtheria case which Dr. Rhodes was treating. After a discussion a motion was made and carried that a committee with power to act be appointed to draft resolutions expressing the feeling of the society in the matter. The chair appointed

Drs. L. O. Rhodes, C. M. Gilbert and E. B. Queal on this committee.

There being no further business the meeting was adjourned.

C. GILLASPIE, Secretary.

## *Other Societies*

### DENVER CLINICAL AND PATHOLOGICAL SOCIETY.

The regular monthly meeting of the Denver Clinical and Pathological Society was held April 10, 1910, at 1434 Glenarm Place, Denver, Drs. Grant, Sewall, Craig, Bergtold and Rogers entertaining, and the president, Dr. Childs, presiding. The minutes of the last meeting were read and approved.

Dr. Lockard presented a patient on whom he had operated for saddle nose, adopting a method used by Carter, which consists of forming an arch by crushing in and upward from base of nose. Discussed by Drs. Grant and Freeman.

Dr. Jones presented a man with a history of dry pleurisy four years ago, followed by tuberculosis of the right lung with involvement of the right shoulder in December, 1909. Discussed by Dr. Beggs.

The committee on revision of the constitution and By-Laws presented their report and the same was laid on the table till the next meeting of this society.

Dr. Packard discussed the effects of tuberculin in joint cases, reporting two cases with results following its use. The doctor was of the opinion that one cannot judge of results in the treatment of children. Discussed by Drs. Bergtold, Wetherill, Black, Van Zant and Packard.

Dr. Freeman discussed the method of operating goitre by the preliminary passing of wire sutures about the gland to control bleeding, thus allowing the removal of the gland, a portion at a time, suturing as each portion is removed. The lymphatics by this method are closed and but little blood is lost. Discussed by Dr. Lyman.

Dr. Lyman reported a case of gonorrheal arthritis resulting in complete ankylosis of the joint. The adhesions were broken up a number of times with worse result each time. Finally the knee joint was operated by cutting through the patella tendon, releasing the adhesions and placing in splints. The knee at this time has one-fourth normal flexion. Discussed by Dr. Taussig.

Dr. Sewall reported the case of a male suffering with pulmonary tuberculosis, also a badly ulcerated and swollen epiglottis, complaining of pain in his rectum. Examination revealed a peri-rectal abscess, the evacuation of which relieved the active throat symptoms. Discussed by Drs. Stover, Levy and Bergtold.

Dr. Hall discussed the effect of prolonged administration of adrenalin in asthma, and re-

ported the case of a male who had received about 25,000 injections covering a period of some years. No changes had been observed in retina or arteries since the treatment was begun, and there were no local symptoms following the injections. The patient had regained about ninety pounds in weight. Discussed by Dr. Levy, who stated that the use of adrenalin in a minim of one to one thousand solution in nose and throat operations often induced violent pain in the head, and that this pain was supposed to be due to the sudden contraction of the arteries. Discussed by Dr. Freeman, who reported a case of agonizing pain in the abdomen following an injection of adrenalin.

Dr. Waxham reported a case of obstinate bleeding following a tonsillectomy in a subject giving a history of acute rheumatism, enlarged heart, etc.

Dr. Arneill related an experience with tartaric acid and bicarbonate of soda for stomach dilation in a case of gastropnoia, the administration being followed by pain and small hemorrhages from the stomach. At operation there were no visible evidences of ulcer.

Dr. Childs exhibited ten skiagrams illustrating different lesions about the shoulder joint not commonly met with.

The Society then adjourned. Members present, thirty.

F. W. KENNEY, Secretary.

The regular monthly meeting of the Denver Clinical and Pathological Society was held May 13th, 1910, at 1443 Glenarm Place, Denver, Drs. Stover, Kleiner, Beggs, Hillkowitz and Wilder entertaining. The president, Dr. Childs, presiding. The minutes of the last meeting were read and approved.

Under a suspension of the rules, unfinished business was taken up. Under this heading the report of the Committee on Revision of the Constitution and By-Laws made at the last meeting was taken from the table and on motion acted on section by section.

Dr. Levy reported the pathological findings in a case giving the history of a discharging ear with recurring attacks of pain around the ear and in the frontal region. Occasional attacks of vertigo with nausea and vomiting. Gradual emaciation. Last attack came on two days before death with severe headache and some vomiting. Pulse 40. Temperature about normal. Post mortem examination showed large abscess in the left cerebellum, the external wall of which was so thin that the slightest pressure in removing the brain caused it to rupture through the cortex. Cultures showed streptococcus, and the mastoid showed evidence of purulent accumulation. Dr. Stover exhibited a large number of lantern slide pictures showing the different stages of leprosy in the island of Hawaii.

The society then adjourned. Members present, sixteen.

F. W. KENNEY, Secretary.

## Books Reviewed

**Education in Sexual Physiology and Hygiene, a Physician's Message.** By Philip Zenner, Professor of Neurology in the Medical Department of the University of Cincinnati. 16mo, 128 pages. Net, \$1.00; carriage extra. Published by The Robert Clarks Co., Cincinnati.

This volume dwells upon the method of teaching "Education in Sexual Physiology and Hygiene," for which there is a great demand among children and young adults. Its purpose is the prevention of diseases which greatly affect the life of man and society—social, nervous and mental diseases.

The first chapter deals with an actual experiment in moral instruction in the school. Talks to the children resulted, in this instance, in a great moral uplift, and a decided improvement in the tone of both boys and girls. The next chapter contains talks to college men and speaks of things that young men, as well as people in general, should know, elementary facts, the imminence and prominence of bad habits, danger of the quack, a knowledge of social diseases for the purpose of imparting an insight into the ill effects on the patient, his family and offspring, and to act as a deterrent. Next, the author deals with the method of imparting sex knowledge to children, stating that knowledge should be given in the way of a biological training, and in such manner that no sensuous thought can result. He insists that those who give such instruction—parents, teachers and physicians—should be thoroughly qualified for it; and in the case of teachers and physicians, this usually calls for special training.

The book is written in a clean, wholesome manner. Dr. Zenner is just the man to write upon this subject and there is no doubt but that it should do a great deal of good.

## Books Received

**Medical Education in the United States and Canada,** a report of the Carnegie Foundation for the Advancement of Teaching, by Abraham Flexner, with an Introduction by Henry S. Pritchett, President of the Foundation. Bulletin No. 4. 576 Fifth Ave., New York City.

**The New Psychology, Its Basic Principles and Practical Formulas,** by A. A. Lindsay, M. D., 99 pages. Eugene and Arthur Lindsay, publishers, Portland, Ore.

**Mortality Statistics, 1908.** Ninth Annual Report, Department of Commerce and Labor, Bureau of the Census, Washington, D. C.

**International Clinics, Vol. II., Twentieth Series, 1910.** 304 pages. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, Pa., published by J. B. Lippincott Company.

## Pamphlets and Reprints

**Nasal and Pharyngeal Obstructions in Infants and Children,** by Myron Metzenbaum, B.S., M.D., Cleveland, O. Reprint from The Cleveland Medical Journal, December, 1907.

**The Professional Anesthetist,** by Myron Metzenbaum, B.S., M.D., Staff Anesthetist, Mt. Sinai Hospital, Cleveland, O. Reprint from The Ohio State Medical Journal, March, 1910.

**The Action of Sodium Benzoate and Benzole Acid on the Human Organism,** by C. A. Herter, M.D., Professor of Physiology, Columbia University.

**The Quarterly Bulletin of Northwestern University Medical School** (Chicago Medical College), Vol. XII., No. 1.

**Pathologic Variations and Complications of Appendicitis,** by Charles H. Goodrich, M.D., Brooklyn, N. Y. Reprint from The American Journal of Surgery, March, 1910.

**Electric Anesthesia,** by Marcus M. Johnson, M.D., Hartford, Conn. Reprint from The Medical Record, April 23, 1910.

**Surgical Hæmostasis, A Consideration of Materials and Methods.** By Horace G. Wetherill, M.D., Denver. Surgeon to St. Luke's Hospital and to Mercy Hospital, etc. Reprint from the New York Medical Journal for March 26, 1910.

**The Abuse of Hypodermic Stimulation During and After Surgical Operations,** by H. G. Wetherill, M.D., Surgeon St. Luke's and Mercy Hospitals, Denver. Reprint from The Journal of the American Medical Association, May 7, 1910. Vol. LIV., pp. 1497 and 1498.

**The Evidence of Plague Infection Among Ground Squirrels,** by George W. McCoy, Past Assistant Surgeon, United States Public Health and Marine Hospital Service. Washington, Government Printing Office, 1910. Reprint No. 45 from the Public Health Reports, Vol. XXV., No. 2, January 14, 1910.

## Items

Dr. H. G. Wetherill of Denver was elected chairman of the Gynecological Section of the American Medical Association.

Dr. W. W. Grant of Denver was re-elected to the Board of Trustees of the American Medical Association.

Dr. W. S. Billingslea, La Junta, who was recently tried by a special committee of the local Lodge of Elks, on charges preferred by the wife of one of the members, was unanimously acquitted.

Dr. Henry Phipps of New York has selected the University of Pennsylvania to carry on the work of the Phipps Institute. Dr. Phipps has already acquired ground in Philadelphia on which there will be erected a hospital for that purpose.

Dr. E. D. Morrow is located at Oak Creek, Colorado.

The following doctors from Colorado attended the A. M. A. at St. Louis: From Boulder, George H. Cattermole; Canon City, Hart Goodloe, Wilbur T. Little and O. Orendorff; Colorado Springs, J. H. Madden, A. C. Magruder, L. H. McKinnie, D. H. Rice; Denver, T. Mitchell Burns, S. B. Childs, J. Elvin Courtney, J. B. Davis, C. K. Fleming, Frank P. Gengenbach, E. C. Gehrung, W. W. Grant, J. N. Hall, Horace Heath, John R. Hopkins, Edward Jackson, Charles Jaeger, W. A. Jayne, R. Levy, H. R. McGraw, G. A. Moleen, Hiram R. Stilwell, Arnold S. Taussig, Horace G. Wetherill; Fort Collins, G. L. Hoel; Fort Morgan, Edward W. Elliott; Lamar, Elmer E. Bartelt, C. W. Russell; Pagosa Springs, A. J. Nossamann; Pueblo, Crum Epler, Frederic Singer and Hubert Work.

Dr. Ed Buckland, formerly of Trinidad, has located at Del Agua.

Dr. James G. Espey of Trinidad is spending a few weeks in the East.

Dr. Robinson has been appointed city physician at Trinidad.

Dr. Stanley, formerly of Trinidad, is now located at Tollerville.

Dr. Charles G. Sprinkle, formerly practicing in Bradner, Ohio, has located in Canon City.

Dr. William Milroy Moore, La Junta, was a Kansas City visitor for several days last month.

Dr. F. M. White, who recently removed from La Junta, has again opened an office at that place.

Dr. John O. Stow, formerly of Boulder, has associated himself with Dr. Pitt and Wade of Canon City.

Dr. and Mrs. R. E. Holmes of Canon City are on a tour of Idaho and the Northwest. They expect to be gone a month.

Dr. A. M. Austin, who recently came from Stronghurst, Ill., to Canon City, for Mrs. Austin's health, has returned to his former home for the summer.

Dr. J. N. Hall gave an address upon "Differential Diagnosis of Intestinal Obstruction" at the thirty-second annual meeting of the Montana State Medical Association at Hunter's Hot Springs, May 12th.

Dr. V. A. Hutton of Florence is ill with typhoid fever.



# COLORADO MEDICINE

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All communications to this publication must be made to it exclusively. It will be more satisfactory to all concerned if contributions are typewritten.

Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions.

Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession, will be gratefully acknowledged. The name of the sender should be given.

The journal will be issued on the 15th of each month. All copy must reach the editor not later than the first of the month. Advertisements of proprietary medicines will be accepted provided the preparations advertised have been approved by the council of pharmacy and chemistry of the American Medical Association. Address all communications regarding advertising to

COLORADO MEDICINE, 1405 GLENARM PLACE

## NOTICE.

All members of the Colorado State Medical Society are entitled to a copy of this journal each month. Failure to receive the same, and change of address, should be promptly communicated to the editor.

VOL. VII

AUGUST, 1910

NO. 8

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

**THE NEXT MEETING OF THE SOCIETY WILL BE HELD AT COLORADO SPRINGS ON THE 11TH, 12TH AND 13TH OF OCTOBER, THE HEADQUARTERS WILL BE AT THE ANTLERS HOTEL.**

### THE ANNUAL MEETING.

The Committee on Scientific Work has practically completed the program for the coming meeting of the Colorado State Medical Society and it will probably be distributed to our members shortly after the first of September. It is not an easy matter to arrange a satisfactory program for a so-

ciety of such varied membership as ours of Colorado. Many difficulties have to be met and many plans have been tried. The present Committee has profited by past experience and the result appears to be one of the very best and strongest programs yet presented for the consideration of the society. It contains many papers of unusual interest, and varied to meet the needs of our scattered membership. It is up-to-date in the consideration of topics of recent scientific interest. Not a member, be he a general practitioner or specialist, but will find there something instructive and of such value as will well repay him for the time spent to attend the meeting. The local Committee of Arrangements for the social entertainment of the society has not yet made its final report. We are assured, however, that it will provide "feat-

ures" which promise to be still more attractive than those offered five years ago, at the meeting which was long characterized as the "best yet." The September issue of Colorado Medicine will contain further details concerning the meeting and all needed information for our members. Make your hotel reservations early. Avoid the crush on arrival and be comfortable.

### **MEDICAL FREEDOM.**

**LIBERTY!** Again we hear loud shouts for Freedom! The spirit of our forefathers still lives! The people are rising to defend their rights! Medical freedom is demanded! Medical freedom we must and shall have! The long, low wail of the oppressed of Colorado has gone forth and reached beyond our borders! It even reached to Iowa and touched the tender, sympathetic soul of one Charles W. Miller. It should be unnecessary to say that the said Miller flew to the rescue! The call was too insistent, he could not otherwise, this sympathetic soul! He came, he saw, he conquered, at least so far as to gather together that very pretty bunch of malcontents "outside the pale of the allopathic doctors" which now forms the nucleus of the local League for Medical Freedom. No longer shall the "outsiders" of this state be interfered with in exercising the God-given privilege of preying upon the gullible public and administering to all ills that flesh is heir to in such manner and with such means as best suits their wisdom or ignorance, their conscience or pocket! No! Not if the League for Medical Freedom can get in its work! Doctors, true or false, educated or untrained, licensed or unlicensed, quacks, fakirs, blatant charlatans shall all be free to milk that old acquaintance, E. Z. Mark, with wise saws, incantations and remedies, material or immaterial, pure or impure, to suit the fancy! This, the Freedom the League demands! A valiant host! A branch of a body, nation-

al in scope it is said, which has flung its banner to the breeze while marching to the fray at Washington where it sees the dread *American Medical Association* in the forefront, trying to induce the government to unite its various agencies for the better protection and advancement of the public health, and fighting for pure food, pure drugs and honest methods against the corrupting host that would fatten upon ignorance, valueless nostrums, adulteration and false labels. It was truly a "pretty" bunch, that one at the Albany Hotel the other evening! We would that our space permitted us, to give its personnel. The records drawn from corner fakirs and court proceedings would make a "pretty" tale!

### **THE ANTI-VIVISECTION MOVEMENT.**

For several years anti-vivisection societies have introduced into the New York legislature bills which, if enacted, would seriously interfere with scientific teaching in medical colleges and with work of inestimable value for the human race now being done in laboratories of medical research. So far their efforts have failed utterly, but with a persistence born of prejudice which will not recognize the right the anti-vivisectionists grossly misrepresent the facts and the experiments are described as full of horror and torture. Their arguments are impressive as stated and fair-minded men and women, assuming these statements to be correct, join in the effort to secure legal enactments to prevent the alleged terrible suffering which dumb animals are made to endure at the hands "of heartless and unprincipled experimenters." It is credibly stated that the Society intends to carry their exhibition of stuffed animals, arranged with all the supposed horrors of an animal experimenting room as best suits their fancy, to certain county agricultural fairs throughout the state to

gain support for the cause before the next legislature. It is perhaps needless to say that in this exhibition fabrication and grotesqueness of misrepresentation reach a culmination and visiting laymen cannot fail to carry away wholly incorrect notions of the actual methods of animal experimentation and what a vast amount of good it has accomplished for the human race as well as for the lower animals. It affords a valuable and conclusive indication of the lack of moral character of the organization which claims such a high position of moral leadership.

Dr. Wm. H. Welch in his presidential address at the last meeting of the American Medical Association called attention to this matter of animal experimentation and says in part: The Council on Defense of Medical Research is performing well a duty which we owe to the present generation and to all who are to follow us, for there would be little hope for the future of medical education or the progress of medical science and art if medicine were deprived of the method of experimentation on animals. Observation and experiment are the warp and woof of the fabric of scientific medicine, the one as necessary as the other. Animal experimentation should never be undertaken without a serious purpose and a grave sense of responsibility to avoid the infliction of all unnecessary pain. Benefits to mankind are denied by those opposed to it. All physicians know, however, that these benefits are simply inestimable and one is inclined to welcome an agitation that gives opportunity to present to the public conclusive evidence on this question in the papers prepared by the council. "The agitation for the prohibition of experiments on animals, conducted under the guise of an humane purpose, is fundamentally inhuman, for if it were to succeed, the best hopes of humanity for further escape from physical suffering and disease would be destroyed." He closes

with the remark that it is a duty which physicians owe to the science and art which they cultivate and to the welfare of the community to vigilantly guard against enactment of legislation of this character. To these vigorous and timely words of Dr. Welch we most heartily subscribe.

## *Original Articles*

### *HERNIA: FALSE OR PSEUDO TRAUMATIC HERNIA.\**

R. W. CORWIN, M. D., PUEBLO.

Hernia is an old and familiar subject. It was mentioned by medical writers two thousand years ago, and has been described by nearly every surgeon since. The causes of hernia are understood by the profession, and the complaint is familiar to the laity, yet the author of this paper ventures to add another line to the many volumes already printed—not because he has something new to offer, but because hernia is so common and the interest in the subject so general, that he believes the subject is ever fresh to the doctor and important to the laity.

"Hernia is probably the most frequent disability from which mankind suffers. The most elaborate statistics are those of Malgaigne, in which he states that probably ten per cent. of the population suffers from hernia in its various forms."

"According to Berger's statistics, the proportion of those suffering from hernia is forty-four in one thousand. It has been stated that there is a loss in the earning capacity of those so afflicted amounting to from fifteen to fifty per cent. Aside from this economic standpoint, however, and what is vastly more important, is the fact that an individual with a rupture always has a possible source of death from strangulation."

\*Read before the Colorado State Medical Society, Estes Park, Sept. 14-16, 1909.



Berger further states—"Of these 11,805 hernias in subjects of over fifteen years of age, 10,897 were inguinal hernias." "Of the 13,483 hernias in males of all ages, 12,384 were inguinal." Marcy says, " $\frac{1}{8}$  to 1-16 of the human race have hernia"—Malgaigne says, "in France one out of every twenty has hernia"—J. H. Baxter says, "Out of 334,321 recruits for the army, 16,901 were rejected on account of hernia—82% were inguinal hernia."

The hernia we are to discuss today—Inguinal hernia, according to DeGarmo, forms 73% of all herniæ. Outten says, "There is no doubt but that the inguinal canal is one of the weakest spots in the abdominal wall of any man" \* \* \* "From statistics accumulated by the writer (from the railroads with which he is connected) "one in 210 applicants were rejected for hernia." Why multiply illustrations of the frequency of hernia? It is known that hernia is common, and that inguinal hernia is by far the most common of all herniæ. It is well understood that hernia, or a predisposition to hernia, interferes with the efficiency of man—and constantly subjects him to dangers that may be fatal. A hernia curtails a man's capacity for work: it often prevents him from securing a position and sometimes interferes with his retaining a position. Hernia has no respect for age or occupation—the young, the middle-aged and the old—the clerk, the merchant, the banker and the laborer may have hernia. A hernia may suddenly change from a comparatively innocent mass to one which rapidly leads to death, if not promptly relieved. This change may come when at work or while at play, or when one is far from assistance that can give relief. A known hernia is always annoying, and often distressing. It is expensive to individual and state, and not infrequently dangerous to life.

The profession well understands the frequency of hernia, and a large proportion

of the laity has learned that hernia is a factor of importance in the economy of man. One has but to turn to the statistics of the number of operations performed for hernia, and the hundreds of thousands of trusses annually manufactured, to realize and appreciate the importance of this subject. These facts are the excuses offered by the author for presenting a paper upon so common a subject.

The above title does not convey a clear idea of what the paper intends to discuss. A better title would be "A Medico-Legal Aspect of Trauma in Inguinal Hernia. The question of trauma in hernia is interesting, important, and worthy of discussion. It is interesting, because it is not easy to determine always when trauma is responsible for the hernia. It is important because it vitally affects both employe and employer. It is worthy of discussion because authorities widely differ, regarding causes.

Hernia may be classified, as follows:

1. True traumatic hernia. 2. Pseudo or false traumatic hernia. 3. Non-traumatic hernia. By true traumatic hernia is meant a hernia that is wholly due to an injury. By pseudo, or false, hernia, is meant a hernia that makes its appearance for the first time in connection with an accident—but in which there is no indication of injury to the parts. By non-traumatic hernia is meant a hernia that appears without trauma or accident.

This paper especially deals with pseudo, or false, inguinal traumatic hernia. The anatomy of the inguinal region is too familiar to every doctor to need reviewing at this time. If man had continued to walk on all fours and had never assumed the erect position, inguinal hernia would probably have rarely occurred, for the anatomy of the lower abdominal region is peculiarly adapted to the horizontal position, and short fore limbs. However, McClelland says, in his "Regional Anatomy"—"The arrangement and interlacing of the fascia

in this region constitute one of the most beautiful evidences of the adaptation of the structure to the fulfilment of its function in the anatomy of man. In the erect position, the fasciæ above Poupart's ligament are rendered tense and unyielding, so that not only is support afforded to the contained viscera, but also the naturally weak places of the groin are effectually closed. It is only when the parts are in a state of relaxation, or when the muscles are, as it were, taken unawares, that a portion of the bowel can insinuate itself into any of the weak places, and be protruded under the influence of pressure during the exercise of effort. While it may be asserted that every hernia is due to some congenital condition which predisposes to it, and that the effort which occasions the affection would not so operate except for the existence of some such condition, it should not be overlooked that the habitual position assumed in many vocations necessarily subjects the groin to strain, under which the part may gradually yield. The most common form of inguinal hernia is that which follows the course of the spermatic cord."

According to McClelland, the body must be erect, and the muscles not taken by surprise, to avoid, at least, some of the dangers of hernia in case of exertion. In other words, Nature at best, or in her most normal condition, seems to have created a weak inguinal region. This at once suggests for discussion,—Causes and vocation. The causes of hernia are commonly classified, as follows:

**Predisposing causes.** Heredity. Age—extremes. Sex—preponderance of male. Descent of processus vaginalis. Descent of the testicle. Anatomical Defects: Hypogastric fossa. Non-obliteration of the tunica vaginalis. "Trifle bulging" of the abdomen, as described by Malgaigne, due to contraction of recti.

**Fat**—In excess, or suddenly acquired

Acting by intra-abdominal pressure. Slipping into canal. Sub-peritoneal lipoma.

**Abnormal weakness**—In children or old age. The tubercular. Mesentery—abnormal lengthening?

**Causes**—Immediate or direct. Constipation, surprisingly common, straining, distention of the bowel.

*Vomiting.*

*Cough.*

**Lifting**—Common cause of inguinal hernia (in merchant perhaps more than in laborer).

**Shouting**—the pedlar, etc.

**Posture**—Relaxed muscles, and effort at the same time, stooping forward, elevated arms. "Golf has furnished a fairly large number of herniæ in men past middle life."—De Garmo. "Physical culture by correspondence" (past middle age—no instructor).

**Urinary obstructions**—Stricture, calculi, prostatic enlargement.

**Crying**—In the young.

*Ascites.*

**Examination**—By introduction of finger.

**Intentional dilation**—As practiced in Europe to avoid army service.

**Horse-back riding**—Trotting.

**Ptosis of abdominal organs**, or (Glenard's disease).

*Pregnancy.*

The natural weakness of the abdominal wall and the degree of resistance are matters for careful consideration. All anatomists point out weak places in the wall about the inguinal region. Every surgeon has had his attention called to the lack of anatomical integrity of the lower abdominal region. The laity know more or less about needed protection to this portion of the body and of the weakness that exists about the groins. Many of our profession declare that every inguinal hernia is due to predisposition. Others are inclined to modify this statement somewhat, but all are willing to look upon the inguinal re-

gion with suspicion. Wyllys Andrews very dramatically pictures the relations of the inguinal region to hernia, when he says—"It makes quite a difference in the emphasis put upon certain factors, whether we study the anatomy from an intra-abdominal or extra-abdominal standpoint. We may consider the structural derangements of this anatomy in the nature of a strife on the part of the entire abdominal wall to preserve its integrity against the effort of the inward forces to destroy this integrity. Thus it makes a difference in our ideas of restorative operations whether we look at the anatomy from the inside, as a caged animal might look at the bars which were restraining it, or whether we look at it from the outside, from the standpoint of one who was trying to prevent escape from within."

Viewing the abdominal wall from within, we have two conditions for consideration, a structure showing slight evidences of weakness and one that has little or no resistance. In the first, one would never suspect hernia possible, except under great violence. In the second, one is surprised to find the viscera within their normal bounds. Between these extremes, all degrees of strength and weakness are demonstrated. If, from within one attempt to force his finger through the muscular tissue of the abdomen, he will find it can be done only under the greatest difficulty. Again, if he follow the spermatic cord, a great variation in the degree of resistance is revealed, but usually little force is required. In the first condition, it is perhaps safe to say, that no abdominal viscera could be forced through the muscular tissue from within, unaided. In the second condition, the viscera slowly or possibly rapidly, with considerable or little effort, may find their way through the inguinal rings. Dr. Coley has gathered a mass of valuable statistics and printed them in his article entitled "Industrial Accidents in

Relation to the Development of Hernia."

Quoting Dr. Coley, "Daget concludes: 1. That traumatic hernia is an accident of labor. 2. That a hernia of force is one which forms as a result of a sudden, severe effort of abnormal intensity; it is characterized by moderate size, sudden appearance and is accompanied by severe pain. This is also an accident of labor. 3. That a hernia of weakness is one which forms more or less rapidly, without severe pain, in a subject predisposed to hernia, by reason of some normal or abnormal effort or by constant, repeated normal effort (professional hernia). Such a hernia is not an accident of labor.

"Van Hassel and Walraven, after a most careful study of the subject, arrived at the following conclusions: 1. That there are herniæ of weakness, which are the most frequent. 2. There are herniæ of effort which are of exceptional rarity. 3. There are herniæ of weakness which under the influence of effort become herniæ of effort. These are less rare than the preceding.

"Blasius and Hamilton Russell have carried to the extreme limits the theory of predisposition. They believe that every inguinal hernia is preformed. Tillmans believes the idea of the sudden formation of a hernia to be an illusion. Kocher has recently made a most careful study of the question. He takes the middle ground between the two extreme positions."

Wyllys Andrews says, "I believe hernias are the subject of more claims for damages than almost any class of injury, because of the fact that physicians as well as laymen too often are willing to ascribe a hernia that appeared about a certain time to some alleged minor or severe injury. The conditions are analogous to those found in injury after diabetes and in joint tuberculosis, which oftentimes no doubt are aggravated to some extent by an injury, but are known to have other causes."

I myself am very skeptical of the role of even severe injuries in producing inguinal or femoral hernias. I do not believe \* \* \* that there is a congenitally open ring which gives way and that all our so-called acquired hernias are really congenital. That is an extreme position to take, but I do firmly believe that nine times out of ten the so-called acquired hernia of the railroad man or any man in laborious occupation, after some fall or sudden jump from a high place or some crushing force I do believe that the patient in that case either already had the hernia and did not know it, or else that it was pre-existent and he merely had an increase in the size of it."

Dr. A. F. Jonas says he has made many dissections, covering a period of several years to prove how often the vaginal process is responsible for inguinal hernia. His conclusions are, "I therefore believe that no man will have an inguinal hernia if his vaginal process is completely obliterated. In regard to the question of inguinal herniæ from injury there may be a great deal of doubt."

Chas. Mayo states "I, however, thoroughly believe that there is a tendency in every case of hernia. I thoroughly believe with Dr. Jones that muscular effort is the cause of most inguinal herniæ, and that the vaginal process is not closed in those cases. The point, however, was taken up by Dr. Andrews. He referred to the fact that many foreign authors believe that the cause of hernia is a congenital defect, but that he did not believe so. I, however, thoroughly believe that there is a tendency in every case to hernia. It is extremely doubtful if traumatism alone without an open funicular process in the hernial canal, can ever produce a hernia.

"The trend of surgical opinion is rapidly growing in the direction of considering practically all cases of hernia due to a preformed sac of congenital origin, which

forms the great predisposing cause for hernia."

Dr. Outten says, "It has been established that hernia in a great majority of instances is the result of long continued muscular effort, which, along with structural defects, leads to its production, and that hernia is always of slow formation, since very few who are affected with it are aware of its onset in its earliest stages, because it develops slowly, gradually and painlessly."

Sultan says, "Hernia complete in all of its parts can never arise at the moment of an accident, or by a single augmentation of the intra-abdominal tension, be it ever so great." And Kingdon states, "Hernia is a disease and not an accident, a pathological condition, and not merely a mechanical lesion." (Quoted from Dr. Outten.)

Whatever may be the opinion regarding accidental causes of hernia, all will acknowledge. That we have frequently a condition where the abdomen is weak: That predisposition to hernia is evident: That the resistance is slight: That the viscera is ever ready to escape: That a little effort under favorable conditions will develop a hernia. In other words, to put it vulgarly, there is an opening, and here a wedge. The opening may vary in size and condition. The wedge may vary in material and in proportions—a bit of fat, a mass of omentum, or a loop of intestine, an appendix or a bladder. Both opening and wedge are ever ready for action. When once the wedge is entered, it may be driven slowly or rapidly, gently or forcibly—all depending upon circumstances. If the hernia appears very gradually, we call it a non-traumatic hernia. If the hernia appears suddenly and in connection with a fall or an unusual exertion, we call it a false or pseudo traumatic hernia. Never, under these conditions, can it be classed as a true traumatic hernia. Then, we may say, regarding a false traumatic hernia, that the conditions must be favor-

able for hernia; that is, there existed a potential hernia (a hernia existing in possibility but not in reality). That one may go through life with a potential hernia. That the slightest effort may develop a potential hernia into one that will give constant annoyance or into a strangulated hernia, threatening life, changing a person from one of usefulness to one of burden, from one of activity to one facing death. Hence, our responsibility does not cease with reducing or operating. We must as well discover and protect. We owe this protection to man—and man owes this preservation to himself, to his family and to society. Every individual should be made aware of his condition, and the possible developing of a hernia, that he may not innocently assume unnecessary risk or be physically unjustly over-taxed.

Heretofore the medico-legal aspect of this subject has been considered almost entirely in its relation to indemnity. The courts in this country and abroad have treated the subject largely from the standpoint of damages and experts have been called upon to prove the extent of liability.

In some instances, the questions of predisposition and extent of injury, being involved, it may become our duty to aid in deciding cases of this nature, but there is a higher duty for us to perform, namely, the protection of the individual against accidents.

Employes should be examined and their physical condition ascertained before being employed. Examining men for different railway services, the author finds an enlargement of the inguinal ring in 30%, on both sides, and about 60% on one or the other side—a predisposition rarely known or understood by the individual. This condition the individual should know and understand. If a potential hernia exists, he should be cautioned that he may guard himself against false traumatic hernia.

As physicians, it is clearly our duty to protect as well as to relieve; to treat when necessary and radically cure when operation is demanded, but nobler is it to protect than to relieve—better to prevent than to cure—more skilful to discover early than late.

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#### DISCUSSION.

Dr. Leonard Freeman: Dr. Corwin has opened up a very interesting subject, a subject which has been considered pro and con for a long time, and he has shown us that there are still points of view which may be regarded with profit. I think we can take it that a traumatic hernia is a hernia that is produced by a trauma; but it does not have to be, according to the notion of some, including myself, a trauma at the point where the hernia appears. We say, for instance, that a fracture of the spine is produced by a trauma; but most fractures of the spine are produced by a man falling from a height upon the shoulders, or having something else fall upon the shoulders, but the spine breaks at a different point. So in these traumatic hernias the trauma may not have been exercised exactly at the point where the hernia appears. Nevertheless, some exertion, some fall, produced the hernia just as much as if it had been produced by a local injury.

I think we can regard this subject from two points of view—from a theoretical point of view and from the point of view of the patient, which is a practical one. It is a theoretical point of view to say that every hernial sac is a pre-formed sac. If we see a large hernia, for instance, a large scrotal hernia, or a large umbilical hernia, we know that this sac was not formed at the time of the accident, in its entirety, at least, and we can assume that such a sac was in a sense pre-formed if the hernia appeared suddenly. On the other hand, if the hernia be a small one (which is the kind of hernia we are speaking of when we speak of traumatic hernia) it is possible to assume that the peritoneum may have been stretched at the time of the accident sufficiently to form a hernial sac. Every operator, I think, is familiar with two different kinds of peritoneum. One kind seems to be so tightly stretched after you open the abdomen that it is almost impossible to bring it together again. In others the peritoneum is very lax, so it can be stretched, and it can even be got hold of with forceps and pulled up into the wound. And hence, if there were a muscular weakness at any point, or if a muscular weakness were produced by

some exertion, which I contend is possible, the peritoneum might be stretched suddenly into a sac that would be large enough to be dignified by the name of a hernial sac. Hence I think Dr. Corwin's conclusions are somewhat theoretical, that a sac must always be pre-formed.

Looking at the question from the standpoint of the patient, he has an accident of some kind, or a strain which is unusual, and the hernia appears. He has never had a hernia before. To him and to every one who sees it, it is a hernia that is produced by the accident. It makes no difference to the patient whether he had a pre-formed sac or whether he did not. He did not have any hernia before and the hernia has come from the accident. This is a practical standpoint and it is very often a medical-legal question. If a man is working, for instance, for some corporation, and some accident occurs and this man suddenly perceives that he has a hernia, is he entitled to damages? If he can prove that his hernia did not exist before this accident I think that he probably is entitled to damages in spite of all the theoretical claims that we can bring to the contrary. It is a difficult question to elucidate, of course, as to whether he had hernia before. Sometimes this matter can be very definitely settled by examining the skin over the point where the hernia originated. If the skin is thick and shows that the man has used a truss that settles the question at once. I have known of one instance in which a discussion was settled in this way, by a very superficial examination of the skin. I do not think that Dr. Corwin's paper has settled the question at issue. I think it is still an open question as to whether a man is entitled to damages when a hernia appears following some accident or exertion, that accident or exertion being due to carelessness of a corporation or an individual.

### PERITONSILLAR ABSCESS, CAUSE AND TREATMENT.

BY WILLIAM C. BANE, M. D.,  
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The rather frequent occurrence of inflammation of the peritonsillar tissue, with the resulting abscess formation and especially the general lack of knowledge as to the safest method of opening the abscess, has prompted the writer to present the subject at this time.

Peritonsillar inflammation occurs as the result of infection, as a rule, of the connective tissue external to and above the tonsil. It is not difficult to demonstrate clinically that the great majority of the

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cases are from extension of the pyogenic bacteria that have collected in the crypts of the tonsil, notwithstanding the firm capsule that surrounds the tonsil. The clinical proof is furnished by the fact that the complete enucleation of the diseased tonsil is rarely followed by a recurring quinsy. Dr. George L. Richardson<sup>1</sup> in 1892 stated that he had occasionally seen recurrent quinsy after thorough removal of tonsils. As the faucial tonsil is not the only source of pyogenic infection, immunity can not be guaranteed after tonsillectomy. Dr. W. E. Casselberry<sup>2</sup> found that seven cases of recurrent peritonsillar abscess were remedied by tonsillectomy, care having been taken to get all of the velar lobe. He considers that the results will be ineffective if the velar lobe be overlooked.

Peritonsillitis is secondary to tonsillitis in nearly all cases, yet some are from caries of the teeth, nasal operations and abrasions of the pharyngeal membrane. Exposure to cold and wet, overheating of the body followed by sudden exposure to cold atmosphere or draughts, are contributory causes.

There are numerous pathogenic bacteria to be found in the throat at any time. They remain inactive until some predisposing factors cause them to multiply and excite inflammatory processes. The most active of these bacteria are the pneumococci, staphylococci and the streptococci. Nature endeavors to wall off infection, but frequently she is unable to confine the germs to the tonsillar tissue. Failing to limit the germs to the tonsillar crypts she brings forward her reserve army of phagocytes and confines the pus formation to the areolar tissue closely connected with the tonsil.

Peritonsillitis is a disease of young adults from 20 to 35 years of age, when atrophy of the tonsils is taking place or is well advanced. It is a period of partial closure of the mouths of the crypts which

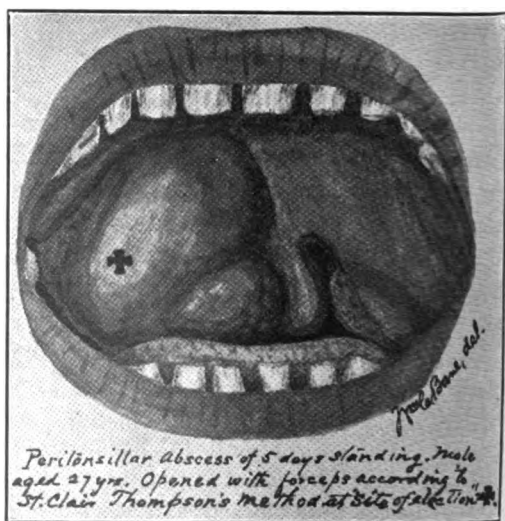
favors retention of pyogenic bacteria in the crypts. However we occasionally see a peritonsillar abscess in a child. Within the past fortnight I opened a large peritonsillar abscess for a child under four years of age. The plica triangularis extends from the anterior pillar onto the tonsil obstructing orifices of the tonsillar crypts and of the supratonsillar fossa, thus contributing to retention of exudate in the lacunæ. The type of tonsil from which peritonsillitis forms is one with diseased crypts that do not empty readily during the act of swallowing. They are usually small and quite smooth, innocent looking masses. Occasionally they are but remaining stumps from a tonsillotomy, the cicatricial tissue closing over diseased crypts. Diseased tonsils that have been seared with the cautery that closes the mouths of the crypts, forming retention cysts, are sources of infection of peritonsillar tissue.

In the treatment of peritonsillitis but little has been accomplished in the way of abortive measures. We seldom see a case early enough to prevent suppuration. One writer<sup>3</sup> advocates the local application of turpentine, half or full strength, to the crypts, to abort peritonsillitis, claiming for it success, and later the prevention of pus formation. The application of equal parts of guaiacol and oil of eucalyptus is very helpful in cutting short an attack of tonsillitis. A mercurial cathartic with some heart sedative as tincture of veratrum viride or aconite are invariably indicated. Aspirin in ten grain doses will modify the pain and reduce the fever.

It has been found that in about 90 per cent. of the cases of quinsy that the pus forms above and anterior to the tonsil in the supratonsillar area. It is not an abscess of the tonsil, hence scarification of the tonsil is needless. The object is to reach the pus early without danger of cutting any large bloodvessels. Dr. Harrison Allen<sup>4</sup> advocated probing through the

crypts until a boggy point was reached then evacuate the pus and cut short the inflammation. Dr. John A. Roe<sup>5</sup> advises a free incision just inside the anterior half arch, cutting horizontally in toward the median line and then the vigorous use of a probe to enter and empty the abscess. Dr. F. C. Cobb<sup>6</sup> has advocated the radical removal of the tonsil during acute peritonsillar abscess to thoroughly cure the affection. His method does not appeal to me owing to the great difficulty of getting the mouth open wide enough and owing to the increased suffering it would cause the patient.

In 1905 Dr. St. Clair Thompson of London advocated the opening of a peritonsillar abscess by the use of a fairly sharp pointed forceps that he had designed. Having had the usual experience of most surgeons, that of often failing to reach the abscess in the early stage and likewise of dreading to thrust a knife deep into the swollen parts, I was delighted when I read the illustrated article by Dr. Thompson in the British Medical Journal for March 1905. Dr. Thompson states that to reach the abscess the soft palate itself must be traversed, and the "site of election" is a point which can readily be located by tak-



ing the following bearings: "If an imaginary horizontal line is drawn across the base of the uvula, and another vertically along the anterior faucial pillar, they will intersect at a point overlying the supratonsillar fossa. Just external to this is the best point for opening the quinsy" (See illustration from recent case). The region is felt with the finger is reached. "It is then sufficient to push the forceps backwards and with a slight inclination outwards in order to reach the pus." As the forceps are withdrawn the blades should be opened widely, as in Hilton's method, so as to produce a vertical opening through which the pus pours into the mouth." There are several advantages in avoiding the use of the naked knife. The operator need have no anxiety as to the possible risk of wounding a large vessel and the patient is more likely to permit the proceeding." The method has also the advantage of considerably curtailing the duration of the illness, as pus may frequently be found as early as the third day from the commencement of the attack."

In the absence of suitable forceps a pair of probe pointed scissors will answer the purpose. The forceps I have used are known as Hartmann's ear dressing forceps with serrated jaw. The handles are at an angle of 45 degrees from the blades so that the hand does not obstruct the limited view in the mouth. The points are sharp enough so that with a quick thrust they will overcome the resistance of the tissues quite easily.

During the past four years I have opened a number of peritonsillar abscesses by the Thompson method and am perfectly satisfied with it. In once case I got pus on the third day and shortened the illness.

I have enucleated tonsils for several patients that were subjects of quinsy and none of them have had a recurrent attack.

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## DISCUSSION.

**Dr. Magruder:** In opening the discussion of this paper I have no adverse criticism on the pathology and treatment as outlined by the essayist. I think that we all agree that a peritonsillar abscess, of the type which the essayist has in mind, has, as its beginning, an original tonsillar infection.

My idea is that just as axillary and femoral abscesses sometimes result from an infection in the hand or foot so the lymphatic tissue above the tonsil acts as basin or cesspool for infection carried by the lymphatics from the tonsillar crypts.

As to immunity after enucleation—or the operation of tonsillectomy for the complete cure of peritonsillar abscess—it cannot be promised, even if the velar lobe of the tonsil is thoroughly enucleated, for, as Miles, of New York, has recently pointed out, a sinus may and frequently does persist—leading from the site of the original abscess—and he (Miles) says that some of these cases never heal and that a condition of chronic quinsy may and does often exist. Dr. Richardson's cases of recurrent quinsy may have been of this type. We must not forget, however, the sources of infection other than from the tonsil as pointed out by the essayist.

The essayist has not given any of the cardinal symptoms of peritonsillar abscess probably because he thought that they were so well recognized that every practitioner would feel at home with such a case; but there are four symptoms so characteristic of this condition that about ninety per cent. of the cases may be diagnosed from one of them alone, and the other three are only corroborative. This one symptom, viz., the voice, is so peculiar, I might say unique, as if the patient was speaking with a mouth full of mush, that we seldom need to inquire further; but added to this is the inability to open the mouth more than a half inch, the tenacious, stringy mucus, and the difficulty and pain on swallowing. A fifth symptom, temperature, may or may not be present.

The greatest difficulty with these cases is the inaccessibility of the site for incision. Frequently a tongue depressor can scarcely be placed between the teeth and the jaws must be gradually separated with a screw mouth gag in order to get a view of the tonsillar area. This having been accomplished I find that a solution of aromatic spirits of ammonia in wa-



ter (teaspoonful to a half glass) is very efficient in ridding the mouth and pharynx of the stringy mucus. I frequently have the patient use this month wash and gargle before making an inspection. I then use a ten per cent. solution of cocaine on a cotton carrier and with it find the tender boggy spot which is, as the essayist has pointed out, nearly always at the angle formed by two lines, the one run across the base of the uvula and the other along the anterior pillar. The cocaine is rubbed well into the part and after two or three minutes I make the incision, which is nearly horizontal, and at right angles to the muscular fibers and from within outward. This is opposite the direction advocated by the essayist. My reason for this direction is that you insert the knife while the patient is quiet. As soon as you begin to extend the incision the patient invariably moves; but as the knife is being withdrawn I am getting away from important vessels; I don't allow this movement of the patient to prevent my making a good-sized opening.

The most satisfactory instrument in my hands for this purpose is the small cataract knife shown herewith which I keep in perfect order for these cases, and which causes very little pain. It is so small that it may be used where other instruments fail. After the incision is made and pus found I then think it wise to enlarge the opening with a pair of artery or other forceps which I introduce into the abscess cavity closed and withdraw them with the blades widely separated. By selecting the site and marking it with some aniline dye, if necessary, there need be no apprehension of severing a blood vessel of any size. Let me say that I used to do this as a routine treatment. When you examine such cases, relations are distorted. You may think you know just where you want to incise; but as soon as you pick up your instrument your patient becomes more apprehensive and you must work fast. In such cases it is much easier to follow a line made at your leisure than to have no guide. The internal carotid is not in danger even when operating on the tonsil itself unless it is abnormally tortuous. The ascending pharyngeal artery is not in the way and the ascending palatine, a branch of the facial, will not be encountered, as these vessels lie along the side walls of the pharynx and are pushed back by the swelling. The ascending palatine, as you know, passes between the stylo-pharyngeus and the stylo-glossus muscles and then a branch passes inward to the soft palate. The facial artery may be injured only in connection with the lower part of the tonsil itself.

Cases of acute tonsillitis (which I consider a self-limited disease) lasting longer than five days, should be looked upon with suspicion as many of these result in peritonsillar abscess. I do not believe that a peritonsillar abscess can be aborted by ice or medical applications, if the infection has localized itself outside of the tonsil; but I do believe that many peritonsillar abscesses are prevented by close attention to the tonsillar crypts during an attack of acute tonsillitis. Obviously there is no way of determining how many peritonsillar abscesses

we do prevent by this attention to the crypts.

**Dr. Melville Black:** It seems to me that we are led both by the essayist and the gentleman who formally opened the discussion to believe that the removal of the tonsil is not thoroughly effective in preventing the recurrence of quinsy. I do not think I have ever seen in my experience quinsy follow the removal of the tonsils. Up until very recently my procedure for removal of the tonsils has been what we would consider an ineffectual method. Up until probably a year and a half or two years ago my method of removing the tonsil was certainly not removing the tonsil in its capsule. And yet I have never seen quinsy follow such a procedure. Now that is an inefficient method. We have certainly better methods at our command at the present time, namely, the removal of the tonsil in its capsule, which is the ideal procedure, and which is the procedure being done now by all men who desire to do thorough and effectual work. If the removal of the tonsil in the old way has been effective in the prevention of quinsy, I feel quite confident that the removal of the tonsil in its capsule will be still more efficient. Therefore I am of the opinion—and I think this is a matter of considerable importance—that we can give the patient a decided opinion that if he has his tonsils effectually removed he will not have future attacks of quinsy. Dr. Bane tells us that quinsy is more commonly seen in young adults and in adolescence. Now this has not been my experience. I find that the most of my quinsy cases are in adults, people between the ages of 25 and 40. It seems to me that I see almost all of my cases of quinsy between those ages.

But, as Dr. Bane has stated, we see it at all ages. I want to dwell upon the importance of palpation with the finger. We can palpate with the finger and determine the presence of pus with almost the same degree of accuracy that we can through the skin. Of course we do not have the opportunity of using both fingers, as we do through the skin, but even with one finger, and with the other hand outside, through the neck, it is possible, I think, to determine with a very great degree of accuracy as to whether or not there is pus present. I do not believe that there is very much gained by surgery in these cases until we have pus present. I know I have lost several cases—not by death, but by the patient going to somebody else—because I had operated before there was pus present, and the patient became so disgusted with the fact that I did not find anything that he went to somebody else, and a day or two having elapsed before he went to the other fellow of course there was no trouble in locating the pus. So sometimes as a matter of self-preservation it is a good idea to wait until the pus is present.

Another point that has been of value with me is syringing out the abscess cavity after the opening has been made. I do not see any particular objections to Dr. Bane's method, except if it were on my throat I believe I would want the point of the instrument a little bit sharper. I have not tried it, and the for-

ceps may go in a great deal easier than I think, but it is my feeling at present that I would want the point of the instrument just as sharp as it could be made. It is my practice to make my primary incision with a cataract knife, and since Dr. Bane has talked to me about this forceps procedure I have been in the habit of introducing the forceps through the incision made with the cataract knife, and with them spread the opening by tearing the tissues. After we have thoroughly opened the abscess, it is a very easy matter to take up a syringe loaded with some saline solution and wash out the cavity four or five times. After you have felt around with the fingers and milked out all the pus, then syringe it if you will as a last resort, and you will be surprised to see how much pus will come away.

**Dr. F. E. Waxham:** The paper presented by Dr. Bane is a very important one, because tonsillitis and tonsillar abscesses are such common affairs. I think we can possibly abort or prevent the occurrence of many peritonsillar abscesses by the early treatment of the tonsil when inflamed. For some time it has been my custom in the case of tonsillitis to introduce into the crypts a solution consisting of equal parts of cocaine and carbolic acid. This is anesthetic, and is, of course, strongly antiseptic. I follow this application by a strong solution of nitrate of silver from 1 to 11 grams to the ounce. This is a powerful astringent and antiseptic as well. In the majority of cases of tonsillitis this will abort them and in this way prevent many a case of tonsillar abscess that would otherwise occur. I think the illustration presented by Dr. Bane is somewhat deceptive. It shows the abscess projecting clearly and definitely. There would be no difficulty whatever in introducing the lancet and opening an abscess such as illustrated. But on the contrary in the patient the jaws can scarcely be separated. It is difficult indeed to get a clear view of the tonsil or of the location of the abscess. We must be guided largely by the sense of touch. In many cases we can hardly insinuate our finger into the throat in order to prove the diagnosis. We approach these abscesses with extreme timidity in the majority of cases for this reason, and, as Dr. Black has suggested, I believe the sharper the instrument the less pain will result from the opening of the abscess, and yet we are timid in introducing a sharp instrument deeply into the inflamed tissue for fear of injuring some of the large blood vessels. The sooner the abscess is opened the more rapid will the recovery be. For a long time it has been my practice to make the first incision a superficial one with a very sharp instrument, simply through the superficial tissues, and then to quickly introduce a blunt-pointed bistoury. You can do no harm with the blunt pointed bistoury even if you have to go to the depth of an inch or an inch and a half; it enters rather easily after the superficial tissues have been divided and the opening can be made just as freely as you wish, just as freely as by the spreading forceps. This method is certainly much less painful than the introduction of a blunt instrument through the

tissues to the seat of the abscess. You can open deeper abscesses by the probe pointed bistoury because of the fact that you do not fear opening large blood vessels which you would if using a sharp pointed instrument.

**Dr. F. W. Kenney:** The general practitioner meets with many of these cases, and perhaps with a larger number than the specialist in this line of work. The specialists see the cases which we are unable to relieve but the general practitioner usually when called upon does his best to relieve them and then when he gets up against a stone wall he looks to his friend the specialist to help him out. I quite agree with Dr. Black in his statement that he has never seen a case of peritonsillar abscess follow the removal of the tonsil, and also with Dr. Bane as regards his criticism of Cobb's method of removing the tonsil, as I understood the doctor to say, during the attack. I think men are quite agreed that it is unsafe and unwise to remove the tonsil during the inflammatory stage. I received some instruction when at college from Jarvis, who was one of the pioneers in New York City in nose and throat work. Dr. Black probably is well acquainted with him. Jarvis taught it was best to open a little above the line marked on the diagram, and that to open with a sharp bistoury from within out was the best method. In my practice the first few cases that came under my care were treated this way and I found the method very successful. I then had a number of cases which did not respond. I got no pus, and found the patient very apt to refuse a second incision. The first opening with the forceps has many advantages. For I think the average case, with the inability to open the mouth very far, makes it almost impossible to introduce a second instrument, at least in the hands of the amateur or novice. These cases that I have been unable to relieve with the first incision have suppurated later, but I have always felt that the patients were rather suspicious, or considerably dissatisfied, with the apparent failure.

Usually the suffering is intense and they do not see any reason why it should not be relieved, and I believe that it is one of the hardest conditions that comes under the eye of the general practitioner and as well as in the hands of the specialist. I think that it is a fine point to decide just when to open; palpating with the finger gives me the best results, and yet I have been deceived many a time in opening at the supratonsillar fossa in not getting pus when there seemed clinically to be every evidence of pus being present, so I feel whenever I am called to one of these cases that I much prefer to turn it over to one of our specialist friends if possible, for if the patients are to be dissatisfied I would rather they would be dissatisfied with the specialist than with me.

**Dr. E. W. Lazell:** When I was a student I had an opportunity in the army to see a great number of these cases, because all the boys get tonsillitis about the first thing they do. I well remember in San Francisco a young recruit came to the hospital corps tent and the

surgeon in charge directed the assistant to paint the throat with tincture of iodine, which was done with a pledget of cotton. However, he did not specify that this was to be done on the outside, and the throat was painted with tincture of iodine on the inside. The boy never came back for further treatment, nor with the peritonsillar abscess. I have seen quite a number of abscesses opened very successfully and without considerable pain with a wedge-shaped pointed sliver of bamboo, in the absence of other surgical instruments.

#### DISCUSSION CLOSED.

**Dr. William C. Bane:** I want to thank Dr. Magruder for bringing the beautiful stereoscopic views illustrating parts in the throat. It seems to me unnecessary to attempt to stain the part into which you want to insert the knife or forceps. The patient as a rule does not want very many applications made to that surface. I purposely omitted in my paper to make any reference to local anesthetics. Some times I make use of the mand sometimes I do not.

Dr. Magruder has given a very clear description as to the use of the knife. Let me emphasize the main point in this paper was not the use of the knife, but in the use of the forceps for opening a peritonsillar abscess.

### *IMPORTANCE OF PAIN IN THE BACK AS A DIAGNOSTIC SYMPTOM.*

BY C. B. LYMAN, M. D.\*  
DENVER, COLO.

We have heard much regarding pain in various parts of the anterior wall of the abdomen but such a simple everyday thing as backache does not seem to attract much attention.

This symptom is such a common one that we are inclined to pass over it lightly and attribute its occurrence to muscular rheumatism and call it lumbago while the patient usually thinks it due to kidney disease.

Pain in the lumbar portion of the back is far more common than in the upper or lower portions and I think more important as a diagnostic sign for it so often happens that the only symptom the patient complains of is backache. There may be others but this is paramount in the mind of the patient. This portion of the back really

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forms the posterior wall of the abdominal cavity and naturally would be the seat of pains referred from disease of some one of the intra-abdominal organs. In many of the cases these pains are of secondary importance inasmuch as other more important symptoms are present elsewhere most likely in the region of the organ affected. Most of the intra-abdominal and intra-pelvic organs when diseased give rise to backache in the lumbar region, the most important ones, however, the kidney, appendix, urethra, ovaries, prostate, seminal vesicles rectum; and we must add the spermatic cord. As other causes we have disease of the muscles and their sheaths, diseases of the spine and disturbed conditions of the general system which weaken the muscles of the back. Muscular rheumatism is a common cause. It is not to be wondered at when one considers that the large body of muscular tissue on either side of the spine is required to support the weight of the entire upper portion of the body when in a standing or sitting position. Pain here is very often due to over-strain of the nervous system but is very often in the nature of a referred pain from one of the pelvic organs. This is seen resulting from malpositions of the uterus and various diseased conditions of the uterus, ovaries or tubes. Backache in the male is often referred from disease of the bladder, prostate and seminal vesicles and spermatic cord, seen most commonly associated with varicocele and active or chronic vesiculitis. The latter often escapes the physicians notice.

I find that in all of these cases backache is a most prominent symptom the one which usually gives the patient the most annoyance and is one which is promptly relieved when appropriate treatment is instituted. Whenever a man comes complaining of chronic backache a careful examination of the sexual organs will often reveal the source of the trouble.

Diseases of the rectum more especially internal hemorrhoids often cause backache and the cause is often overlooked as in many cases the patient does not complain of local symptoms. Recently I have seen a case of this character; the patient a woman was operated upon to correct a uterine displacement which failed to give relief to the pain. A rectal examination showed the presence of hemorrhoids, the removal of which gave the desired relief. We should remember that every woman who has a backache does not have a retroverted uterus but many of them do have some diseased conditions of the reproductive organs or the rectum which cause referred pain in the muscles of the back or so reduce their general constitution that the lumbar muscles and ligaments become weakened and fail to give the necessary bodily support. These are the ones who are disappointed when they do not get relief following an Alexander or a ventral suspension.

Often times backache means nothing but a weakness of the general constitution or is the result of acute general infections.

Various diseased conditions of the kidney often cause lumbar pains most commonly seen in cases of tumors of the kidney hydronephrosis, tubercular disease, stone in the kidney, movable kidney, and perinephritis.

The pain is usually unilateral but is sometimes bilateral when the condition itself is unilateral. One should remember that kidney pains are sometimes referred to the opposite kidney region, but here as elsewhere the seat of the trouble is generally indicated by a localized tenderness. This was most forcibly brought to my notice in the case of a little girl aged 12, who had an acute infection of the right kidney and perinephritic tissue, an extension from an acute attack of appendicitis. The patient complained bitterly of pain over the left kidney region but the tenderness was located over the right kidney region. In

stone in the kidney we sometimes find that the skiagram shows a shadow of stone in the kidney opposite to the seat of pain. Catheterization of the ureters likewise may show a tubercular or suppurating kidney on one side with a normal urine coming from the side of pain. These occurrences should impress upon us the very great necessity for thorough and extended investigation of all cases of kidney disease before operation is to be done.

Appendicitis acute or chronic occasionally has lumbar pain as a most prominent symptom seen in those cases where the appendix lies posterior to the caecum either intra—or extra—peritoneal or where it lies near the median line upon the posterior abdominal wall. When the pain is so situated a differential diagnosis from perinephritis or renal stone is often a difficult matter. We will usually have some other guiding symptoms present. Rigidity or resistance of the muscles in the anterior abdominal wall will usually be present in appendicitis but in some cases diagnosis can not be made until at the operation.

It is needless to say that lumbar pains occur in most diseased conditions of the spine; it is always seen in caries and tumors and in many cases is the most prominent symptom. There is a diseased condition of the spine, however, which is little thought of and where pain in this region is the paramount symptom. These patients often go from one to another only to receive the same treatment—anti-rheumatic. I refer to an osteo-arthritis involving the articulations between the vertebral arches and producing a thickening of the lining of the foramina through which the posterior nerve roots take their exit. During the last few years I have seen a large number of these cases—my first case was that of a gentleman of leisure; he had been a sufferer for a year from backache and had received various methods of treatment for muscular rheumatism, including springs

and osteopathy. When I saw him his pains were so severe that he could not sit at the table long enough to finish a meal and when sitting in an arm chair he would invariably support the weight of his body with his elbows on the arms of the chair. The pain extended down the leg along the course of the sciatic nerve, there was tenderness on both sides of the spinous processes of the lower lumbar vertebræ. A plaster of paris jacket properly applied gave immediate relief to the pain; the relief was so immediate that he refused to allow me to cut the cast open and fix it so that he could remove it for an occasional bath and this in spite of the fact that he was a gentleman who was particularly fastidious concerning his personal appearance and bodily cleanliness. He wore the cast for two months and has never suffered from a return of the trouble. Another well marked case was that of a man aged 42, a consulting engineer. He was employed in Mexico and was obliged to stop work on account of severe lumbar backache. Thinking a sea voyage would do him good he went abroad and while there consulted physicians who gave him various opinions but failed to give him at the same time any relief. Being an old acquaintance of mine he finally came to Denver and I found him with symptoms similar to the case just cited. The first thing I noticed was that when he sat down in a chair at the office he rested his arms on the arms of the chair and sat in that position continuously and upon inquiry as to why he sat that way, replied to stop the pain. A skiagram taken of his spine showed a decided thickening in the region of the vertebral arches giving a dark shadow. A plaster jacket was applied; the relief was not immediate as in the other case but came gradually. In three weeks he undertook a six weeks' inspection of mines in Mexico, he wore the cast for three months. The last letter I received from him written from New York

reports that he considers himself "perfectly well."

The next two cases belong to the more severe type of the disease. The first that of a man who had such severe pain that he was bedridden and I was obliged to have him removed to the hospital on a stretcher to have a jacket applied; he had been in bed for two months. No skiagram was taken in this case but the symptoms were characteristic—severe lumbar pain, rigidity of the spine without any deformity, tenderness on both sides of the spine processes and some pain along the sciatic nerves. In two weeks after the jacket was applied I saw him riding a bicycle down Sixteenth street. He wore the jacket for two and one-half months and there has been no return of the symptoms. The other case was that of a woman in a neighboring city who while alighting from a street car received a sudden twist of the spine. She was confined to bed for several weeks and an operation was contemplated and was arranged for when I was called to see her. A skiagram taken in this case upon her removal to Denver showed the same condition as was found in the other cases and the symptoms were practically the same: the pain was apparently more severe than in any case I had seen prior to that time. After a jacket was applied she was able to walk from the hotel to the street car and go to the station in that way. She made a complete recovery. I last heard from her a year afterwards in California and she was in perfect health. These cases are sufficient to call attention to the importance of a recognition of this complaint. These cases are best treated by the application of a plaster of paris jacket or a steel brace; I prefer the former. I have recently seen a patient who had a modified support applied in the East but it did not give the requisite support and I was obliged to apply a jacket.

There are several types of this disease. It

was first mentioned by Becherew in 1893 and later treated more elaborately and clearly by Goldthwait of Boston in 1899. To this condition many names have been given Marie's Disease, Becherew's Disease, Arthritis Deformans, Ankylosing Inflammation and Osteo-arthritis. It is described as a chronic and progressing disease. Most of the writers give us the description of an advanced case with complete ankylosis of the spinal column. None of the cases I have seen have been of that type and the symptoms were not so severe as pictured by these writers. In all of them there was lack of normal spinal mobility but no complete ankylosis, though many of them while standing assumed the characteristic position of one with an ankylosed spine. Pain in the region of the nerve roots and along the line of distribution of these nerves is laid down as a constant symptom, this I have found to be true.

All say that most of these cases are called lumbago.

Rheumatism, gonorrhea, syphilis, infectious diseases and trauma are given as the etiological factors in its production. In many cases there takes place an ossification of the small joints and ligaments of the spine and in many cases exostoses are to be found. The X-ray offers a valuable aid in making a differential diagnosis between this condition and that of caries and sprains or hysterical spine. In the two latter conditions there is no variation from a normal spine; in caries we find definite picture of bone destruction while in osteo-arthritis we find a thickening along the vertebral arches.

Most writers do not give us much encouragement in the matter of ultimate and permanent recovery but say that under such treatment as I have described an arrest of the process may be secured. My experience leads me to conclude that if early and proper treatment is instituted a complete and permanent cure can be obtained.

Pain in the sacral region in itself is not a symptom of great importance as most of the conditions giving rise to this symptom produces many others of greater significance, though we see cases where sacral pain is the only symptom of uterine and rectal diseases.

Pain in the dorsal region is of importance as it may have its origin in one of many intra-abdominal conditions as well as in caries, intra-costal neuralgia and pleurisy. Aortic aneurysm, gastric ulcer, carcinoma of the esophagus and stomach, various lesions of the pancreas and gallstone disease may all have dorsal pain, a prominent symptom. Gallstone disease often has backache as the only symptom. At the present time I have a patient under care in whom severe pain in the back opposite the location of the gall bladder was the only symptom of importance. At operation a single stone was found in the gall bladder. The other conditions mentioned will always have other symptoms which are more characteristic and which point more strongly to the seat of trouble. Severe pain in a small area opposite to the gall bladder in the absence of symptoms leading to other diagnosis should make one very suspicious of gallstone disease.

#### DISCUSSION.

**Dr. T. M. Burns:** In speaking in general of backache, I believe that the sacral backache is much more frequent than the writer would lead us to believe, but that the lumbar is the more severe condition, and that the patients in referring to their pain usually refer to the highest point at which they feel it; ladies often speak of the waist line, when the pain really extends from the waist line down. I believe that sacral pain occurs much oftener than lumbar. I notice quite frequently with the use of electricity that there are one or two tender vertebrae, and that these frequently seem to project a little more than the others.

One thing which the speaker did not mention is looseness of the sacroiliac joint, just a slight looseness. I believe that this frequently is one of the causes of backache. In the treatment of the milder cases adhesive straps could take the place of plaster of paris.

**Dr. O. M. Shere:** There is one point which the speaker did not mention in enumerating the causes of pain in the back, which has come to my attention, and that is flat foot, especially

in men. Some patients will come with the complaint of pain in the back, where no other cause can be found than a static flat foot, and the correction of such a deformity will eventually do away with the backache. It is important, I think, to remember this condition as a cause of backache, and it should be looked for in some of the puzzling cases which occasionally appear for treatment.

Dr. H. G. Wetherill: There is another form of backache which has been common of late—that is, the automobile backache, a backache not so much from riding in cars as from cranking them. Some of the cars of a few years ago were very hard to crank, and men who were not accustomed to active muscular exercise were inclined to get a good deal of side strain on the spinal column in such a way as to produce pain in the back and along the course of the sciatic and genitocrural nerves. I speak feelingly on this subject because I have been a victim, and I know what I am talking about. Dr. Packard found a little lateral deflection in my lumbar vertebrae which we both believed was attributable to this cause.

### *THE OPERATIVE TREATMENT OF RECENT FRACTURES OF THE PATELLA.*

BY MAURICE KAHN, M. D.\*  
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That this subject is destitute of the element of novelty, there is no gainsaying. My reason for bringing it to your attention at this time is, because, so far as one may judge from the abundant literature on the subject, there is lacking that unanimity of opinion which should characterize all well established and correct surgical procedures; and also, for the purpose of endeavoring to harmonize the opinions of this section.

Viewing the patella as a sesamoid bone within the quadriceps tendon, and remembering that the lateral expansions of the vasti re-enforce the joint capsule, will assist us in gaining a better understanding of the physiology of the patella and a more accurate idea of its importance.

That it is possible to remove the patella subperiosteally without materially limiting the power of extension has been proven too often to require further substantiation

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at this time. That the integrity of the patella is not essential to good extension is doubtless well understood, but that the integrity of the capsular structures is necessary to good extension is, I fear, less generally comprehended. Beyond doubt then, the capsule with its quadriceps expansions assumes even a more important role than the patella itself. Hence, the importance attaching to ascertaining whether or not the lateral portions of the capsular ligament are lacerated, and if so, to what extent.

If a considerable tear exists, there will assuredly be marked limitation of the function of the quadriceps, and possibly loss of extension. The degree of functional limitation will depend upon the extent of the tear, as will also, the amount of subsequent atrophy of the muscles resulting from the destruction of their parapatellar attachments. Whereas, should these be intact, even with a fractured patella, wide separation of the fragments can not occur. As a corollary to this, little or much separation of the fragments signifies slight or extensive tears of the capsular ligaments. The extent of the rent can also be estimated by the amount of lateral tumefaction.

While it is doubtless true that one may obtain a fair functional result and still have a wide separation of the fragments, it is also true that such joints are characterized by notable insecurity in extension; and should the fibrous tissue which unites the fragments in such cases, subsequently become torn, the so-called refracture, more extensive laceration of the lateral ligaments occurs than took place at the time of the original fracture, entailing as it must, greater disability. The enhanced difficulty of operating upon these refracture cases, as compared with the original fracture cases, is common knowledge.

Bony union can occur in some properly treated non-operated cases, but is such a very rare consummation that I shall suf-

fer no disappointment if I never see one. It is to be borne in mind that bony union does not always insure good functional results, for adhesions may greatly restrict the normal movements of the patella on the femur. In other words, a good anatomical healing is not identical with a good functional result, and conversely, a good functional cure is not wholly dependent on a perfect anatomical restoration. Nevertheless, the more nearly our reconstruction approaches the normal anatomically, the more likely are we to achieve the normal functionally.

To further justify the operative treatment of fractured patella, it becomes necessary to demonstrate that the functional results after operation are superior to those obtained by the non-operative treatment. It has been conclusively shown by various operators that we attain not less than 20% more serviceable knees in operated cases than in the non-operated cases, notwithstanding the opinion held by Landwehr (<sup>1</sup>) who maintains that equally good results can be obtained by the bloodless method as by the operative method of treatment, basing his opinion on 16 cases treated variously at Bardenheuer's clinic.

The resistance of the joints to infection is but slight as we all know; in marked contrast to the resistance often manifested by the peritoneum, with which the synovia has often been imprudently compared. Hitherto the *bête noir* of joint surgery has been the danger of infection, so that the question naturally arises: with what degree of security from infection can we open the knee joint? The answer to this is that Stimson (<sup>2</sup>) in 1907 reported 250 consecutive cases operated upon without accident. But to attain such excellent results it is essential that only those eminently qualified should undertake the operation; i. e., those well trained in aseptic surgical technique and accustomed to its employment, and under the most rigid aseptic

surroundings, with well trained assistants. Or, as Stimson has so well stated, operator and assistants should have not only experience in operating, but also the HABIT of taking surgical precautions. No other should be permitted to have any part whatever in such operations.

The advantages held then, by the operative treatment over the non-operative method, it seems to me, are the following:

1. The blood which is always present in a fractured joint, and very slow to absorb, and which favors adhesions, is easily removed at operation thus favoring the non-formation of adhesions from this cause.

2. The facility with which interposed shreds of torn fascia are removed, and accurate apposition of the fragments obtained, this being all but impossible if any other method of treatment be adopted.

3. Limitation of motion after fracture is caused by the adhesion of the attachments of the patella to the femur. The early massage, passive and active movements of the joint permitted following suture is a prime factor in the good results obtained from this practice, by lessening the chances of the formation of firm adhesions, and limiting the amount of muscular atrophy.

4. The dangers of so-called refracture are lessened by suture, for though one gets fibrous union following suture, the fibrous tissue making up this union will, in all likelihood be shorter, denser and stronger and less apt to tear through under sudden strain, than the stretched out, attenuated fibrous tissue which forms disadvantageously without suture.

5. Briefer time of disability, which is a factor of the first magnitude to the laboring class, to the members of which this accident usually occurs.

The best time to operate closed fractures of the patella is, I think, early, i. e. about 48 to 72 hours after the accident, by which time hemorrhage has ceased, thus diminish-



ing the difficulties to the extent of not having to cope with this bothersome contingency. On the other hand, if one delays the operation too long, until the torn structures are thickened, stiff and resilient, the difficulty of their accurate apposition is thereby increased. And further, blood clots will have become partially organized and adherent with attendant destruction of the synovia at the sites of adherence.

Whether one uses the straight longitudinal or the curvilinear, horse-shoe incision which latter has its convexity above or below, is a matter of personal choice. I prefer the curvilinear incision as it affords a better view of the field, permits fuller examination and easier reconstruction of the lateral ligaments; moreover, the danger of infection is greatly mitigated by having the skin incision removed as far as possible from the fascial opening into the joint.

Blood clots may be removed with the gloved finger, scoop, forceps or washed out with saline solution. An antiseptic solution is not alone unnecessary but harmful unless infection has already occurred, for any irritating fluid is potent only for harm in a clean joint. Some have deprecated the use of the finger in removing adherent clots. I can see no objection to the use of the gloved finger, but on the contrary, am of the opinion that one can remove adherent clots with less trauma with the finger than if the scoop be used for the purpose, particularly in removing clots from the superior cul-de-sac. No objection can be raised against the use of forceps.

Whether the methods of Stimson and Blake, wherein the parapatellar structures alone are sutured and the bone not drilled, are superior to the method of drilling the bone and uniting the patella in addition to suturing the parapatellar structures seems not as yet definitely settled. It strikes me that more accurate apposition of the bony fragments is likely obtainable with bone suture than by merely suturing the capsu-

lar structures alone. So it is seemingly wiser to employ the combined method and thus enhance the chances of obtaining bony union, which, while not necessary to a good functional result is, nevertheless, greatly to be desired and one of the chief purposes of any operation. Again, the greater the likelihood of bony union the less the possibilities of elongation of the patella from hypertrophy or a stiff connecting band, restricting flexion by its immobility over the femoral condyles.

There has been a steadily growing tendency toward the use of absorbable suture material and the abandonment of wire during recent years, and I had assumed that absorbable material was being universally employed for patellar suture, but Corner (<sup>3</sup>) in a recent article makes the bold statement that an absorbable suture is not a good suture. Now then, wire causes absorption of bone around the suture, which leads to loosening of the wire with some separation of the fragments and consequent fibrous union, and the chance of the wire breaking with a sudden effort. Moreover, wire may break up into small pieces, which, working into the joint may act as any foreign body, requiring secondary operation for its removal. Kangaroo tendon lacks these disagreeable features, and is absorbed in not less than 5 weeks, a sufficiently long period, as the patella unites within 30 days, after which any suture, having fulfilled its purpose, is unserviceable.

The parsimonious use of catgut would seemingly be the conservation, too, of the patient's interests, since Reidel (<sup>4</sup>) had the experience in 11 cases of severe aseptic inflammation resulting from the too generous use of catgut, and found that his functional results were in inverse proportion to the amount of catgut used.

My own custom is, after drilling to unite the patella with kangaroo tendon, and then unite the trimmed fascia anterior to the patella, and the aponeurosis laterally

with catgut. The careful coaptation of the lateral aponeurosis being of equal importance with the juxtaposition of the patella. Then the skin is united with silkworm gut. No drainage whatever is used. Should there be considerable oozing a pair of forceps inserted between two stitches provides a ready outlet. A posterior splint is used for a few days. At the end of a week massage and passive motion are begun. In two weeks the patient is out of bed and active movements encouraged. If the lower fragment is very small it is convenient to encircle this with a suture instead of drilling which might jeopardize the life of a small fragment.

Subperiosteal removal has been done with little impairment of function, and I should not hesitate to perform such operation should conditions indicate the wisdom of such procedure, though thus far I have not encountered a case that justified the measure.

Simple transverse fractures with no more than a half inch separation of fragments I think may be safely treated by the bloodless method: not because I should expect bony union, but because the injury done the lateral ligaments is slight and the fibres of the vasti which strengthen them are likely to hypertrophy sufficiently to give adequate strength to the extensor function. Simple longitudinal fracture, which I have never seen, would certainly not require operation even if recognized. In all other fractures of the patella I believe better results are obtained from the operative method and should be practiced by the competent surgeon, barring such patients having those conditions which preclude any major operation.

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The American Proctologic Society held its twelfth annual meeting at St. Louis, Mo., on June 6th and 7th. The meeting was well attended and there were many very interesting papers.

### *FRACTURES OF THE PELVIS.*

BY PERRY JAFFA, M. D.,  
TRINIDAD, COLO.\*

Nearly all of our text books as well as special articles on the subject generally preface the same with the statement that fractures of the pelvis are of rare occurrence. While this is true, fractures of the pelvis are none the less of frequent occurrence in mining localities where the men are caught under falls of rock or coal as well as those who are caught between cars or between cars and the ribs of the mine. And I say without fear of contradiction, that if every case of "internal injuries" was looked into thoroughly, and not allowed to lie until a general peritonitis carries the unfortunate victim off, we would have a great many more cases of "pelvic fractures" to record and less deaths by "internal injuries." If we study the mechanism of the pelvis we can readily see that if a heavy weight strikes the pelvis, something must give way, and especially so, if the age of the patient is such that the various joints have already become ossified.

#### MECHANISM OF THE PELVIS.

Besides forming a cavity for certain viscera, a support for some abdominal organs, and a point for the attachment for the lower limbs and of many muscles, the pelvis serves to transmit the weight of the body both in standing and sitting postures. The transmission is effected through two arches, one available for the erect position, the other for the posture when sitting. The sacrum which supports the spinal column is the centre or key stone of both these arches. When standing, the arch is represented by the sacrum, the sacro-iliac synchondrosis, the acetabula, and the masses of bone extending between the two last named points. If all parts of the pelvis were to be cut away but these, the portions

\*Read by title before the Colorado State Medical Society, Estes Park, Sept. 14-16, 1909.

left would still be able to support the weight of the body, and would represent, in its simplicity, the arch through which that weight is transmitted. When sitting the arch is represented by the sacrum, the sacro-iliac synchondrosis, the tubers ischii, and the strong masses of bone that extend between the two last named parts.

Morris terms these two arches the femoro-sacral and the ischio-sacral. On examining the innominate bone it will be seen that its thickest and its strongest parts are such as are situated in the line of these. When very considerable strength is requisite in an arch it is continued into a ring so as to form a counter arch, or what is called a tie is made to connect together the ends of the arch, and thus to prevent them from starting outwards. By these means a portion of the superincumbent weight is conveyed to the centre of the counter-arch, and borne in what is called the sine of the arch. The body and horizontal rami of the pubes form the tie or counter arch of the femoro-sacral, and the united rami of the pubes and ischium form the tie of the ischio-sacral arch. Thus the ties of both arches are united in front at the symphysis pubis, which, like the sacrum or key-stone, is common to both arches.

This explains how it is that so much strain is made upon the symphysis when any increased weight has to be supported by the pelvis, why there is such powerlessness with inability to stand or sit, in cases in which this joint is weakened by injury or disease.

#### FRACTURES OF THE PELVIS.

From what has been said it may be surmised that the weakest parts of the pelvis are at the symphysis and at the sacro-iliac joints. The bones of these parts, however, are so very firmly knit together by powerful ligaments that it is very rare for these articulations to give way, fracture of the adjacent bones being more common. The commonest fracture of the pelvis is in the

weak counter arch, and involves the rami of both the pubes and the ischium. The fracture is often associated with some tearing of ligaments about the sacro-iliac synchondrosis, and is met with in accidents due to the most varied forms of violence. The last remarkable circumstance is thus explained by Tillaux. If the pelvis be compressed in an antero-posterior direction, the main brunt of the force comes upon the weak counter-arch, which fractures from direct violence. The force continuing tends to push asunder the two iliac bones, and so causes rupture of the anterior ligaments at the sacro-iliac joint. If the force be applied transversely, the two acetabula tend to be pressed toward one another, the counter-arch becomes more bent, and ultimately gives way by indirect violence. The violence continuing forces the two ilia together towards one another, the strain then falls upon the sacro-iliac synchondrosis, and the posterior ligaments of that joint are apt to yield, or portions of the bone adjacent to the joint are torn away. In cases of falls, when the patient lights upon the feet or ischial tuberosities, it can be understood how in many instances the main arches will escape injury owing to their great strength, while the counter-arch becomes fractured.

Any part of the pelvis, including the sacrum, may be broken by well localized direct violence.

#### SYMPTOMS.

The symptoms of fracture of the pelvis vary, of course, with the location of the injury to the bone. Symptoms of shock are very frequently present. In consequence of the pain the patient usually avoids every movement of the pelvis and lower extremities. The soft parts and the skin are generally infiltrated with blood. The usual symptoms of fracture (deformity, abnormal mobility and crepitus) are more or less distinct, depending upon the variety and location of the break; but in

eliciting these symptoms one must do so with extreme caution in order not to displace any of the fragments which may be in good position. Rectal examination is also of great importance, for there may be an injury of that organ. While there is generally laceration of the soft parts and severe traumatic injury to other organs, the bladder and urethra are most commonly involved. This is due to the fact that the greatest number of fractures occur at or near the pubes.

#### PROGNOSIS.

Unless an early diagnosis is made, and even then, the prognosis in cases of fractures of the pelvis is very grave and should be given very guardedly, and especially so if accompanied by visceral injury. The risks to which the patient is exposed are many, he may die from shock, suppuration and even gangrene may set in, due to urinary infiltration of the tissues following a ruptured bladder or lacerated urethra. A general peritonitis is also one of the common complications due to the same cause. the rectum may be injured and an internal hemorrhage may cause death before one is able to do anything to prevent it.

#### DIAGNOSIS.

In fractures of the pelvis there are two classes of injuries; (a) those complicated by visceral injury, and (b) those not accompanied by such a lesion.

In examining a patient who has been subjected to a crushing force such as I have mentioned before, viz; falls of coal or rock, being caught between cars, etc., one must bear these possible complications in mind. for it is possible, in the less severe cases, to have so little pain and shock that the fracture may be overlooked, or there may be no symptoms at all until the patient makes an attempt to get up on his feet.

The principal complications accompanying fractures of the pelvis, and probably the most common, are ruptures of the bladder

and urethra due to the fact that the pubic bones are the ones that are most commonly fractured. The most common symptoms of injury to the bladder are, hematuria, difficulty in urinating and retention of urine. In rupture of the urethra, if the patient can urinate at all it is with great difficulty and much pain, the amount of urine is small and is mixed with considerable blood, both liquid and coagulated, and if one attempts to pass a catheter it is liable to be caught in the tear.

If the fracture involves the sacrum or coccyx we are liable to have an injury to some of the blood vessels. Those which are most commonly torn are the common iliac, superior gluteal, internal pudic, and the obturator arteries and veins.

#### TREATMENT.

It is of the greatest importance that treatment of the proper kind should be instituted at the earliest possible moment and especially so if there is a rupture of the bladder or urethra so that septic infection from the infiltration of the tissues with urine may be prevented. If a rupture of the urethra exists an external urethrotomy should be performed as soon as possible and a catheter passed through the entire length of the urethra and retained in place.

If the bladder is ruptured a supra-pubic incision should be made and the rupture looked for, and repaired.

In all cases of this kind it must be borne in mind that other organs of the pelvis may be injured and should be looked for and properly treated, if found.

If no complications exist there should be perfect union in six weeks at least. The patient should be kept in bed, absolutely quiet, and if in too much pain be relieved with opiates. As to a dressing I prefer adhesive around the pelvis, as it is almost impossible to keep a wide muslin binder in place, good heavy sand bags are also of some value, one on either side of the pelvis and kept in place by a wide bandage

around the body. The knees should be tied together.

A fracture bed should be used so that the patient is not compelled to move when it is necessary to use the bed pan. If it is possible to get an air or water bed it should be done as they conform to the outlines of the body and act as a splint.

#### DISCUSSION.

**Dr. E. J. A. Rogers:** I am glad to commend the excellence of the paper and the illustration. I would like to tell you of a case which was under my care twenty-six years ago in which the symptoms which he has emphasized so clearly and so well were all to be seen. This man was a car cleaner, if I recollect right—it was at the time I was doing the Rio Grande surgery—and he was rolled between a moving car and a coal bin along a space seven and a half inches wide. He was rolled the whole width of the bin, and the pelvis gave way, both sides, the displacement being very great. I saw him almost immediately, introduced a very large catheter—and that is the point which I think is well worth remembering, to immediately introduce as large a catheter as you possibly can; a large catheter often getting in where a small one will not. The organs were all filled with blood and I did not know where the tear was, but I think my diagnosis at the time was that the urethra was completely torn across, though I did not operate. But getting in early, it was easy to introduce a large catheter. The shock was terrible, and we all supposed the man was going to die, but he lived. He got gradually better, though exhibiting some complications which the doctor does not mention, but which it might be well to speak of. There was a good deal of supuration about the fractures, the infection being probably through the urethra, and the tissues were so crushed that there was an inflammatory exudation all around the areas of the fractures for a long time. After he was about, one testicle suppurated and was entirely destroyed. He was then in much better shape for a time, during which period his wife became pregnant. Then the other testicle also became infected, suppurated and was destroyed. The man lived for many years. The point I wish to emphasize is the use of a very large catheter very early.

**Dr. F. H. McNaught:** After a fair experience in cases of fracture of the pelvis I feel that too often we depend on the book signs rather than on the actual signs that we get in this condition. I think in probably fifty per cent. of the cases of fracture of the pelvis that I treat, there is no disturbance of the bladder, and it is unusual to obtain peritoneal disturbance, which the doctor states is so common. I have now two cases of fracture of the pelvis, and in one of them there were practically no symptoms other than inability to walk. The x-ray showed a positive fracture, a displaced

fracture, just at the right of the pubis. Now, this has been my experience in quite a number of cases, and I am inclined to think that we possibly depend too much and too often upon bladder disturbances, rectal disturbances or peritoneal disturbances as pronounced symptoms of peritoneal fracture. I have also found in adult cases that if they are kept thoroughly quiet they make a good recovery. In children, or in persons in whom proper control cannot be obtained, I feel that the best treatment that we have is positive fixation through plaster of paris.

#### SLIDING HERNIA.\*

FROST C. BUCHEL, M. D., DENVER.

Hernie par glissement or sliding hernia is a rare form of rupture, but it is not so rare that it should receive such scant attention in our surgical text books.

Treves in the examination of 100 subjects found that in 52 there was neither an ascending nor a descending mesocolon, the intestine being fixed in the manner which is regarded as normal.

In 22 there was a descending but no trace of an ascending mesocolon.

In 14 a meso colon was found in both the ascending and descending segments of the large intestine.

In 12 there was an ascending mesocolon, but no corresponding fold on the left side. Hence from this series a mesocolon may be expected on the left side in 36 per cent; on the right side in 26 per cent.

This is just what one would expect from comparative anatomy. In the lower animals the descending mesocolon is always an extensive membrane. It is well developed in all monkeys and the anthropoidea, as the remains of the primary vertical fold of the dorsal mesentery, while the ascending mesocolon is a secondary production, acquired during the development of the bowel by rotation.

The bowel is then loosened by peeling off with the finger or, if tightly fastened, by cutting or snipping with scissors as widely as possible from it until it is re-

\*Read before the Colorado State Medical Society, Estes Park, Sept. 14-16, 1909.

leased up to or above the internal ring, which is to be opened widely by retractors or even enlarged by cutting if required to obtain a good view. Then the loosened peritoneum is turned backward and sutured behind the gut as far as practicable.

The peritoneal flap should be an ample one, so as to permit to a satisfactory degree the unfolding of the bowel loop and thus avoid kinking, which, however, is rarely of importance in the large intestine.

The operation is then completed as usual, excepting that in some cases the testicle and cord should be removed so as to strengthen the internal ring.

In some cases better exposure can be obtained by a herniolaraparotomy as was practised by Terrier and Hartmann in three cases with success. This would allow of a more complete bowel separation and serious investment and would permit an intestinal fixation higher up if this were deemed necessary.

Weir reports five cases of sliding hernia. In three only firm pressure was necessary to force the bowel back into its place in the abdomen. In the two remaining cases the bowel was freed from its bed, then covered with the peritoneum of its incomplete sac, and finally reduced. In another case the ascending colon was freed by dissection and covered by peritoneum from the incomplete sac and successfully reduced.

I have recently operated upon two cases of sliding hernia which I desire to briefly report.

G. H. male; white; aet. 55. Patient referred by Dr. H. W. Rover, Operation April 28, 1909.

The patient had a right complete indirect inguinal hernia of fairly large size. The hernia was partly reducible. Patient was a bar-keeper but had been unable to do any work for over a year on account of a dragging pain in the rupture. Patient had two trusses but could not wear either without causing pain.

On opening the sac small intestine and omentum were found and were reduced. The whole posterior part of the sac was lacking, that part of the sac being made up of sub-peritoneal ascending colon. The colon was so adherent that it could not be pushed back into the abdomen. A long incision was made in the sac to the outer side of the colon and a very short incision to the inner side. The bowel was then freed by blunt dissection; the flap taken from the sac to the outer side was sutured behind the gut and returned to the abdomen. The sac was then cut off and sutured and dislocated after the method of Prof. Kocher. The remainder of the operation was a typical Bassini.

The second case was a man F. R. aet. 51. half Indian and half colored. He was a house case at St. Anthony's Hospital and was referred from the service of Dr. F. G. McKlveen.

The patient was being treated for pulmonary tuberculosis and cirrhosis of the liver. He had a right complete indirect inguinal hernia which was so large he could not get out of bed. He had been ruptured a little over 10 years. The hernia was very large, apparently most of the abdominal viscera were in the hernia. The abdomen was greatly distended with fluid the fluid also being plainly perceptible in the hernia.

The patient's pulse was over 130 and his general condition was so poor that it did not seem to be advisable to administer a general anesthetic. Dr. C. G. Parsons very kindly gave a spinal anesthesia for me. There could be no more severe test for a spinal anesthetic as there was a tremendous amount of dragging and pulling before the operation was completed. There was a certain amount of pain but it was very trifling.

On opening the hernial sac the ascitic fluid began to run out. A large tube was inserted through the hernial opening and

a little over four gallons of ascitic fluid syphoned out of the belly.

The contents of the hernia were then easily reduced. At this time it was noticed that the posterior and inner parts of the sac were lacking. The cæcum, ascending colon, ilio-colic junction and the lower part of the root of the mesentery were in the hernial sac.

An incision in the sac external to the colon was made up to the internal ring. The adherent parts were then worked loose and the peritoneum from the sac was sutured under the colon. The whole mass was then replaced in the abdomen. As much of the sac as possible was cut off and the irregular opening sutured.

The rest of the operation was typical being a Bloodgood modification of a Halsted—the so-called John Hopkins Hospital operation.

The patient did about as he pleased after the operation. We could not keep him in bed. He was up the next day and right along after that.

There has been no recurrence as yet in either case.

Russell of Melbourne maintains that all indirect inguinal hernias and femoral hernias have a preformed sac. Coley in Keen's Surgery is disposed to recognize the correctness of this view.

So etiologically we first have the preformed sac. Next there must be no mesocolon—we must have the fixed normal attachment of the colon. There must be sufficient looseness of the peritoneum to permit the large bowel to slip into the hernial sac.

The patient is usually past middle life. The rupture is usually a large one.

The symptoms do not differ materially from the symptoms of any hernia of large size.

The diagnosis is difficult to make. The hernia is usually irreducible.

Perhaps the chief diagnostic point is the

patient's inability to wear a truss without pain. This, of course, is not pathognomonic. The chances are that the nature of the hernia will not be suspected until the sac is opened. Then one finds the usual contents of a hernial sac; intestine, omentum, transverse colon, etc. These structures are returned and the sac examined. The sac is then found to be deficient posteriorly. The posterior part of the sac is formed by the peritoneum covering the colon. The colon lying retroperitoneally down in the scrotum.

Comparatively few of the cases where there is large intestine in the sac are cases of sliding hernia. In most such instances there is a mesocolon which makes reduction perfectly easy and simple.

In these cases of sliding hernia the sac can not be cut off at the internal ring as this would cut off the colon lying back of the peritoneum.

In the British Medical Journal of October 19, 1895, William Anderson reports three cases of sacless hernia of the sigmoid flexure through the left inguinal canal. He states that no such cases have been recorded before. His treatment was to sew up the exploratory opening in the peritoneum, to reduce the gut and finally, in the second and third cases, to close the inguinal canal with sutures, with a view of retaining the intestine in the iliac fossa as long as possible in the hope that the tendency to descend might be lessened. One of these cases held nine months with a truss. In the other two there was a recurrence as soon as work was resumed.

Anderson says: In the radical cure of the ordinary form of inguinal hernia the most essential point is the obliteration of the sac; but in cases like these there is no sac to close, and no treatment of the inguinal canal can offer more than a moderate probability of a permanent cure.

At this same time Anderson saw two cases in the Anatomical Laboratory of St. Thomas' Hospital.

Froelich of Nancy has collected the records of 21 cases, 10 strangulated and 11 that were operated upon for a radical cure. There were six cæcal hernias, leaving four strangulated sigmoid hernias and nine non-strangulated.

Of these Hydenreich had two cases, both followed by fecal fistula. Camplenon's case was followed by an artificial anus.

Reverdin, Berger, Terrier and Froelich all failed to cure their hernias.

Terrier and Hartmann reduced the sac and the sub-peritoneal bowel and closed the ring in two instances. Finally, disturbed by the failure to secure a reduction, Juillard, of Geneva, boldly resorted to the severe measure of cutting away the protruding bowel and joined the divided intestinal rings by a Murphy button, and with success. He aided the closure of the internal ring and inguinal canal by the additional removal of the testis and spermatic cord.

These masters of surgery found in sliding hernia a condition which they did not meet with any degree of success.

It was not until Weir's paper in the *Medical Record*, February 24, 1900, that a rational and successful method of reduction was suggested.

Weir's first cases were unsuccessfully treated by vainly attempting to push up the attached bowel toward the external ring and to hold it there by sutures carried from below the intestine to the sides of the ring on through the abdominal wall.

Later Weir separated the bowel from its sub-peritoneal bed. This is at times very difficult from the denseness of the tissue and there is danger of damaging the nutrient vessels of the intestine.

Leaving such a large raw surface was not good surgical technique so the following method was devised. After freeing the bowel from its bed, the raw surface was covered with peritoneum taken from the sac by dissecting it up on each side of the bowel, at the top, on a level with or a little above the internal ring, and at the bottom to a short distance below the bowel.

## INSANE OF COLORADO.

J. E. COURTNEY,  
DENVER, COLO.\*

The provision and expenditures for the insane are matters of large public interest and our appropriations in this line are the biggest and more rapidly increasing than for any other of our eleemosynary institutions.

The material provision for the insane in Colorado, their commitment, detention, cost of care, and their discharge from custody, if not too statistical in the telling might be worth a few minutes of your time.

We have but one public institution for the insane which must cover the entire field; the insane, civil and criminal, the defective and epileptic. No separate provision is made for these several classes and none at all for defectives, especially defective children. But Colorado is a young state and must be allowed time to make that liberal provision for its insane which is now made by most of our states. There is perhaps no greater or more costly waste than the neglect of incipient and early cases of insanity.

It would be useless to go into details to convince you of this. It is the public and the legislature which must be convinced.

### STATISTICAL.

In our population of three quarters of a million we have only some 1400 persons in the state known to be insane, which is only one in a little less than five hundred persons. This is not up to the usual proportion in civilized communities today, the average being one insane person in custody in about every three hundred of the population. Ample provision by the State would no doubt soon bring to light the missing proportion. However, a new community like Colorado ought naturally to show a few less, than the average in older aggregations of humanity.

\*Read before the Colorado State Medical Society, Estes Park, Sept. 14-16, 1909.



The population of the State Asylum at Pueblo has about doubled in ten years; more of an increase than in proportion to that of the general population. The census there is now about nine hundred, about one hundred more men than women.

The fiscal reports of New York State for 1908 show over thirty thousand insane in custody in a population of something around nine millions, or about one in every three hundred persons. An annual appropriation of five million for all purposes for the insane is made; about one hundred and seventy dollars per capita per annum, for each person in the institutions. Colorado is expending something less than this per capita and providing well, but on a less elaborate scale. There are eighty persons all told, employed at our State Asylum, less than one to every ten patients, which is low. The institution is full and there are known to be about two hundred and fifty waiting for the completion of the new addition which is being built to accommodate three hundred.

#### THE CONVICT INSANE.

The convict and criminal insane used to be sent to the State Asylum, and there are some sixteen there now in most of whose cases the prison sentences have expired. For five or six years no new ones have been admitted for lack of room. These, now numbering about twenty-five, have been kept at the prison at Canon City without adequate provision or separation from the general prison population. This condition at the prison, however, is about to be relieved by the conversion of the old prison building for women into an hospital which will also receive the insane. This seems the best provision until the State has to have a separate institution for the convict and criminal insane.

An illustration of the difficulties of handling this class in a general asylum has recently occurred in this state. A negro convict escaped from the asylum at Pueblo

and ran amuck about town, striking a woman on the head and severely injuring her; two months later she died. So much popular feeling was stirred up by this accident that the state had to yield to the demand and put a barbed wire fence about the asylum grounds, giving the gateway somewhat the appearance of the entrance to a menagerie of fierce wild animals. I have no doubt that a few years will see just as great a demand for the removal of this fence, or at least the change to a more slightly inclosure at the front of the institution.

#### COMMITMENT OF THE INSANE IN COLORADO.

The methods of commitment of the insane in Colorado are antiquated, in exact and cumbersome, and delay and obstruct the securing of treatment for them until in advanced stages. The unseemly sight of criminal proceedings, court, jury and witnesses have serious objections on which I need not dwell. The certificate of two physicians approved by a judge of a court or record is now the usual method everywhere; the rights of the individual being protected by a jury trial on demand. The saving in expense, time, life and the mind of the patient, and the feelings of the family are incalculable.

Rhode Island now requires for commitment simply the certificate of two physicians that the patient is insane and a request for admission by a near relative or friend. The transportation to the asylum by trained nurses sent by the institution instead of by the local constabulary helps to take away the criminal appearance of the affair, and considerably lessens expense.

The parole instead of unconditional discharge of convalescent insane persons is a precautionary and economic method of the greatest value. Thirty days used to be the limit of parole in several states; after that time a new commitment was necessary in case of relapse. In several states this

parole period has been increased, and in New York state it was recently extended to six months. The parole system is in use in the discharge of patients from your State Asylum.

#### VOLUNTARY COMMITMENTS.

Voluntary commitments are authorized by the laws of Colorado, Ch. 80, Sec. 2970 a, 3d Mills, which says:

The superintendent or keeper of any hospital or other institution for the care and treatment of the insane or feeble minded may receive and detain therein as a boarder and patient, any person who desires to submit himself to treatment and makes written application therefor, but whose mental condition is not such as to render it legal to grant a certificate of insanity in his case; but no such boarder shall be detained more than three days after having given notice in writing of his intention to leave the hospital or asylum.

This law although modeled after that of other states and about the same as the law recently passed in New York is as yet very unsatisfactory. The patient must be so *compos mentis* that a commitment could not be had under the insanity law, but the law does not explain who is to decide this question. It is left to the patient, the friends and to the establishment offering treatment, the latter being always liable to the imputation of self interest. The patient seeking treatment by voluntary commitment ought to make application in writing in the form of an affidavit, with a near relative or friend before some civil magistrate, and the three days notice in writing which releases the patient ought to be given to this civil magistrate. As it is, the management of a sanatorium is expected by the family to draw up the paper of voluntary commitment, explain the law and the purpose to the patient and secure the patient's signature. This cannot but savor of self interest on the part of the management of the sanatorium and especially so

when the patient demands release too soon, which is very apt to happen in drug cases and even in mild mental cases. The patient must then be reminded of the three days' notice clause which is to invite the notice or if this clause is forgotten by the patient, to hold him would be *durance* without due process of law.

Moreover, the well-to-do who can pay private establishments for care and treatment are benefited, whereas the poor cannot secure voluntary admission to the State Asylum, at least no cases have been so admitted. Only recently have the state institutions of New York been allowed to admit voluntary patients, although licensed private places have done so for years. Some private sanatoriums have had or been threatened with suits for illegal detention under this law. In some states voluntary commitment under laws about like ours is effective for state asylums, and a good many cases are being so received.

One private charity institution in Rhode Island reports nearly half their recent admission voluntary. The psychopathic wards of general hospitals in our large cities are receiving voluntary patients. I doubt if many of the so-called voluntary patients really remain willingly. In only a few cases of mental disease is the necessity of detention and treatment recognized by the sufferer for any length of time, although the signature to a paper might be obtained by persuasion. When Benjamin Franklin wrote the petition to found the Pennsylvania Hospital for insane at Philadelphia, 1751, he set forth that "the number of persons distempered in mind has increased and that few or none of them are so sensible of their condition as to submit voluntarily to treatment."

#### STATE PROVISION FOR EPILEPTIC AND FEEBLE-MINDED.

The state makes no provision for epileptics except such as are insane, and none at all for feeble-minded children. Some of

the County Medical Societies have taken this matter up. Last March the Larimer County Society passed a resolution setting forth that there are hundreds of mentally defective children in Colorado, and urged the passage of bills then pending before the legislature, making appropriation for an institution for these. An appropriation of \$70,000 was made, and provision, for a commission of three to select the site and build the institution. I do not know whether the governor has as yet appointed this commission.

#### THE HABITUAL DRUNKARD AND DRUG HABITUE.

Some three quarters of the rounders of the lock-up and police courts are cases of drug and alcohol addiction. Our arrangements for caring for these are the most expensive and ineffectual that could well be devised. Many of these victims were from the start handicapped by a neurotic constitution and naturally fell victims, and others have unwittingly or wilfully made themselves slaves. The families of these endure untold privation and anxiety. The law still treats these people, if they are unable to secure private care and treatment, as criminals.

Massachusetts, Minnesota, and Iowa have separate public institutions for the detention and treatment of sufferers from inebriety and drug habit, the methods of commitment being much as in cases of insanity. In Nebraska, Pennsylvania and Connecticut such cases can be committed to institutions in the same manner. In Colorado such cases cannot be committed unless these habits have advanced to the production of actual insanity. The City of Denver, which has a number of acres of land not in use, could do nothing better both from an economic and humanitarian standpoint, than establish an inclosed industrial farm for these cases. They can no more be suppressed by fines and short sentences of imprisonment than insanity could be by

the same methods. In fact the process just rests them up, keeps them alive, and they start afresh through the mill.

In the last New York legislature a bill was introduced for a comprehensive plan of treating these cases in a public institution, and providing for their commitment, and release on probation of first offenders. I do not know whether it became a law.

#### DISCUSSION.

Dr. George A. Moleen: I do not think there is anyone who has anything to do with the insane but can appreciate the importance of Dr. Courtney's paper. I dare say there are a great many physicians who are in the same position as a great many of the lay public in that they do not know what an important subject this is and the vast number of people who are in our institutions and not properly cared for. Of the institutions in the state we have only the one devoted to the insane outside of the private detention houses. The one, in Pueblo, is overcrowded, and with a state of an area of 103,000 square miles it seems that we should have some other establishment.

With reference to the epileptic—that class of most unfortunate patients with whom we have to deal—we have no means of caring for them whatsoever, and it seems that we should have something done in that direction. I would be in favor of suggesting to the house of delegates of this society that some commission be appointed from there to make recommendations to the next Legislature.

In the matter of commitment, I do not quite agree with Dr. Courtney, for I believe that in so far as the commitment itself is concerned in this state, it is quite correct, but I do not object to its being brought before a lay jury for final determination. I believe that the commitment as it stands in this state now occupies the position of a warrant, where a man is accused of crime by a layman, is proper. I think that to wait for two physicians to be assigned and investigate the case is an unnecessary delay in the case of violent patients which should not obtain. Another point, it places the physician in a position to be criticised for the possible unjust confinement or commitment of a patient.

As it is at the present time an allegation made before the clerk of the County Court is sufficient to commit a man. He is entitled to trial in ten days if the conditions warrant, or should he demand it.

On the three days voluntary commitment, I have the same objections to make that Dr. Courtney has. If a man makes a voluntary commitment or applies for voluntary commitment, it should persist for at least thirty days and particularly where drug habits and alcohol is the reason for his commitment; his resolutions on the first day are very strong, but they wane by the third day, and it is difficult, if not impossible in the great majority of cases, to accomplish anything before he is ready to make an application for release.

# Progress of Medicine

## INTERNAL MEDICINE

Edited by

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### EFFECTS OF THE MARATHON RACE ON THE CIRCULATORY AND RENAL SYSTEM.

Dr. Joseph H. Barach (*Arch of Internal Med.*, Apr. 15, 1910) reports the results of his investigations upon 55 contestants in the Marathon race held by the Pittsburgh Athletic Association. Unusual facilities were placed at his disposal for making these investigations. Unfortunately, however, the investigations began only a short time before the race, and after the contestants had been in training for six to nine months. Therefore the data as to their condition before beginning training is lacking. His most important conclusions are as follows:

**BEFORE THE RACE.** The average individual who has trained for this race will, about the time he is in good training, have a pulse that is slightly slower than normal, but with normal diurnal variations. His blood pressure is higher than that of the average individual, and with this he has developed a compensatory hypertrophy. If it is found that he has a greater than normal diurnal pulse variations, it would be associated with a higher than average blood pressure. The average heart shadow as seen with an X-ray is larger than normal in nearly all cases, and some show comparatively very large hearts. The larger the hearts, the higher the blood pressure. In those who are found to have a heart murmur, the heart is very large, and the blood pressure higher.

**IMMEDIATELY AFTER THE RACE.** As a result of this inordinate exertion, the average fall of blood pressure is about 20 per

cent., being greater than this in the heart murmur cases. The greater the dilatation the greater the drop in blood pressure. Ten days after the race the blood pressure had risen to a point slightly lower than that which existed before the race. Six months later it had fallen to a point considerably below that which existed before the race, but presumably higher than training was begun, and the hypertrophy seems to be gradually disappearing.

**RENAL SYSTEM.** Before the race only one man showed abnormal urinary findings. The largest amount secreted during the race, which lasted between three hours and fourteen minutes, and five hours, was 220 cc., and the smallest, 35 cc. Specific gravity was from 1.012 to 1.035. There was no ratio between the amount and the specific gravity, nor was there any between the total solids and the loss of body weight during the race. Every specimen showed albumin, from a mere trace to a heavy cloud. None showed sugar. All showed casts, five of them showing a "shower of casts." All, except the largest specimen, showed red blood cells; three showed a large amount of blood. One week after the race, four showed light clouds of albumin and casts. Two, casts without albumin. Three weeks after the race, three that did not show albumin before the race, showed traces with casts. It is thought that some of these runners will not return to normal health.

O. M. G.

### THE RELATION OF THE PSEUDODIPHTHERIA AND THE DIPHTHERIA BACILLUS.

Paul F. Clark (*Jour. of Infectious Diseases*, May 20, 1910) has made quite an extended study of this subject in an attempt to clear up some of the mooted points. Discussion has been rife as to whether they were simply types or variance of the same species, and susceptible under certain conditions of being transformed

from the one into the other; or on the other hand were separate and distinct species.

The differentiation is generally based upon cultural characteristics, staining reactions, action upon carbohydrates, serum reactions, morphology, and pathogenicity. Regarding the first two of these, it is generally admitted that while practically useful, they offer no criteria which can be considered conclusive as to specific difference. Upon the other points, Clark carried out extensive experiments by which he arrived at the following conclusions:

1. Solid-staining types are not more prevalent at the end than at the beginning of a case of diphtheria.

2. Successive passages of *B. hofmanni* (pseudodiphtheria bacillus) through guinea-pigs, chickens, pigeons, or canaries produce no effect either on the animals or on the organisms inoculated.

3. Doses as large as 7 per cent. of the body weight of half-grown or young guinea-pigs do not kill the animals nor change the type of *B. hofmanni*.

4. Guinea-pigs inoculated with cultures of *B. hofmanni* sensitized with homologous serum show no unusual effects.

5. *B. hofmanni* grown in an increased supply of oxygen shows no biochemical or morphological change.

6. By using celloidin sacs it was found that long-continued growth in the body cavity of guinea-pigs either alone or together with *B. diphtheriae* or *Aurococcus aureus* does not change *B. hofmanni*.

7. *B. hofmanni*, inoculated into animals in combination with toxin, either directly or in celloidin sacs, exhibits no change in the cultures recovered.

8. Artificial selection on the basis of morphology does not change the form of *B. hofmanni*.

9. Solid-staining forms are common to both *B. hofmanni* and *B. diphtheriae* during the first 8 to 12 hours of growth. Occasionally, however, these types are re-

tained by the *B. diphtheriae* for much longer periods and some strains of *B. hofmanni* may show barred types on long incubation.

10. The frequency curves of acid production of *B. hofmanni* and *B. diphtheriae* show marked differences.

11. We would suggest that the term pseudodiphtheria bacillus be discarded for the less perplexing one of *B. hofmanni* and that the symbol  $D^2$  be restricted to those organisms of the correct morphology which produce acid and diphtheria toxin.

12. From a careful study of the literature and from the experiments described in this paper, we are forced to take the position that the pseudodiphtheria bacillus of *B. hofmanni* belongs to a different species from the true Klebs-Löffler bacillus. Doubtless both organisms do belong to the same group and came from common ancestors, but the differences seem to be sufficiently constant to place them in separate species.

O. M. G.

#### HYGIENIC VS SURGICAL TREATMENT OF TUBERCULOUS PERITONITIS.

Arthur K. Stone (Ros. Med. and Surg. Jour., June 16, 1910) enters a protest against what he considers to be a too great readiness to operate in cases of this disease. He admits the necessity for operation in case of great distention or where acute symptoms arise in connection with the trouble, also where there is evidence of a localized tuberculous process—such as in the appendix or tube. But he says that since the brilliant paper of König in 1892 the almost universal dictum has been to operate in all cases as soon as a diagnosis of tuberculous peritonitis is made. Within the past 2 or 3 years several prominent surgeons have rebelled against this custom. Stone has personally made a study of a considerable number of operated cases as to their after history, and another series of cases in which no operation was per-

formed but the patients treated as any other case of tuberculosis would be.

He concludes that the latter cases compare quite favorably with the former—especially when the large percentage of bad after effects, such as infected wounds, fistulæ and recurrence, are considered. He does not want to be understood as opposing the operation under all circumstances, as in many cases operative measures are imperative but he thinks it a mistake to class it as a disease always demanding operation, when there is such a large tendency to spontaneous cure. O. M. G.

#### THE RIGHT BORDER OF CARDIAC DULNESS.

Gordon (British Med. Jour. June 4, 1910) comments on the slowness with which the profession has recognized the difference in the percussion line of the right border of the heart in the recumbent and the erect position, also the significance of the extent of this difference in disease of the heart.

In health the line is found near the middle of the sternum in recumbency, and from one-half to three-fourths of an inch further to the right in the erect posture; while in dilatation or hypertrophy of the right auricle and ventricle this difference is often more than doubled. The effect of posture is much greater upon the right border than upon the left. This he accounts for by the fact that, on the left, the heart lies in close proximities to the wall, to a point very near its border; while on the right it recedes much more but is still brought in contact when the erect posture is assumed.

He concludes that a statement as to the width of cardiac dulness or the distance of its right border from the midline—without mention of the posture, is of relatively small value. O. M. G.

Dr. E. W. Kearby, Rocky Ford, is in Kansas City undergoing treatment for a chronic rectal disease.

#### DERMATOLOGY

Edited by

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#### ARSENICAL KERATOSIS AND CANCER.

The possibility of definite injury to the skin, by the long continued administration of arsenic is quite insufficiently recognized and it is only within a few years that attention has been drawn to the subject. Dubreuilh (Dermatologisches Centralblatt 1910 No. 9, p. 275) points out the clinical features of this little known affection and emphasizes the dangers arising from it.

It most frequently results from the taking of arsenic for diseases of the skin, particularly psoriasis, when the patient without medical supervision continues the use of the drug over a long period of time. Ordinarily Fowler's Sol. is the preparation used, which in doses of 12-15 drops a dose is continued for many years, in one case between 20 and 30 years. About six months after beginning the use of the drug the first evidences of the disease appear, either in the diffuse or in the nodular form, in some cases the condition disappears after withdrawal of the drug, in others it persists indefinitely. Other evidences of arsenical poisoning are usually absent, but there may be melanosis, reddening of the skin, zoster, or even paralysis. The author describes three of his own cases in each of which the palms and soles were chiefly affected. A fourth case, a 71-year-old man had taken Fowler's Sol. for 20 years, and in addition to the extensive hyperkeratosis an ulcerating carcinoma had developed on one of his fingers, extending to the bone and necessitating amputation.

This possibility of malignant change in the abnormal epidermis is the point of most importance in this condition, and is particularly to be feared in those patients of advanced age. Arsenic is altogether too frequently prescribed for diseases of the

skin, indiscriminately and without special indication or knowledge of what it is expected or intended to accomplish. It falls far short of being a specific for all diseases of the skin, and is being constantly replaced by other drugs even for those special conditions in which it has long held first place.

A. J. M.

### **SURGERY**

Edited by

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WHAT ARE THE END RESULTS OF SURGICAL OPERATIONS FOR THE RELIEF OF NEURASTHENIC CONDITIONS ASSOCIATED WITH THE VARIOUS VISCERAL PTOSIS: TO WHAT EXTENT DO THEY IMPROVE THE NEURASTHENIC STATE ITSELF?

Joseph A. Blake (Surg. Gynec. and Obstets., July, 1910) gives his views on the above question in a most practical manner. A short resume is as follows:

Sufferers from visceral ptosis may be divided into two classes:

1. The ptosis of the organ contributes to the neurasthenic state by the effect produced on the organ itself. In this category may be placed displacements of the kidney, uterus and stomach. The results of operations depend upon the degree to which the condition affects the neurasthenic state.

2. A vicious circle is established and the ptosis is a direct factor in perpetuating chiefly the cases of enteroptosis either alone or associated with general splenoptosis in which autointoxication is a marked feature. Operations on this class must relieve the autointoxication. If there is marked lengthening and dilatation of the colon, partial excision or exclusion of the colon is indicated. On account of the severity of the operation, great care should be exercised in its application.

Finally, in recommending an abdominal

operation to relieve neurasthenia, the following four conditions must be satisfied:

1. That there is a definite morbid or mechanical perversion of the normal condition of the viscera.

2. That it is the chief underlying cause of the neurasthenic state.

3. That the neurasthenic condition can not be cured without its correction.

4. That it can be corrected by a definite operative procedure of only moderate danger to life.

H. M. C.

### END-TO-END INTESTINAL ANASTOMOSIS BY THE INVAGINATION METHOD.

Charles M. Gibson (Annals of Surg., July, 1910), presents a method of union by invaginating one end into the other. This is especially useful in difficult cases of re-union of the large intestine. The technic is as follows: Temporary occlusion of the gut by clamps. The upper cut edge of the gut is seized with two Kocher clamps and introduced by these into the lumen of the lower end and maintained there by an assistant. The extent to which this invagination can be carried varies with the laxity of the mesentery. If the latter is very short, it may be elongated by an incision of its outer layer. The cut end of the upper segment is carried as far down as possible. The gut is rotated a quarter of a circle so that the non-peritoneal covered surfaces do not entirely approximate in the circumference. Eight to twelve interrupted Lembert sutures are now introduced, so that the free cut edge of the lower segment is turned inward, thus bringing only peritoneal surfaces in contact. A continuous running suture is applied over this area, the Kocher clamps having been previously withdrawn. The bowels are not moved for three days and a low residue diet given. He has made use of the method in six cases and is well satisfied with the results.

H. M. C.

**GYNECOLOGY AND OBSTETRICS**

Edited by  
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**WHEN SHALL WE OPERATE IN PUERPERAL SEPSIS?**

J. O. Polak (American Gynecological Society, May 3rd to 5th, 1910) read a paper on this subject, based on the study of 200 consecutive cases, from which he drew the following conclusions:

1—Each case of postpartum infection must be studied individually and an accurate diagnosis made on the clinical, bacteriological, and blood findings before treatment is instituted.

2—Nature is competent in the majority of instances to localize and circumscribe infection.

3—Curettage, douches, and examination during the acute stage breaks down barriers and opens avenues for the further spreading of sepsis to the myometrium, parametrium, and adjacent tissues, and the danger from curetting increases with each month of pregnancy.

4—Large pelvic and abdominal exudates may disappear without operation. Enlarged ovaries, tubes, etc., may assume their proper size and functions, and, further, as long as the patient's general condition improves, no surgery is advisable.

5—All operations are attended with less risk after the acute stage of infection has subsided, at which time exact diagnosis is more easily made.

6—After the uterus has been thoroughly emptied, the pelvis should be left absolutely alone and efforts made to support the patient and increase her natural blood resistance.

7—Extra peritoneal drainage of local foci should be chosen when possible, either by incision just above Poupart's ligament or by posterior vaginal section. If necessary, exploratory laparotomy is justifiable in order to make a correct diagnosis

and to determine the safest route for drainage.

8—Operative interference in the acute stages of sepsis is indicated only in general purulent peritonitis, pelvic peritonitis after abortion, infected tumors in or near the genital tract, and uterine rupture, when the rupture has occurred in the course of labor and been handled outside of a well managed maternity, and, finally, thrombophlebitis is a conservative process on the part of nature to limit infection, and any form of pelvic manipulation tends only to break down and separate parts of these thrombi, so extending the infection to more remote parts and adding risk to the patient's life.

C. B. I.

**THE IMPORTANCE OF BLOOD PRESSURE IN THE TOXAEMIA OF THE LATTER HALF OF PREGNANCY.**

Hirst (New York Medical Journal, June 11, 1910) states that the earliest and most constant sign of toxæmia in the latter half of pregnancy is a high and constantly rising blood pressure preceding albuminuria and all the constitutional signs of impending eclampsia. This sign was first brought before the attention of the medical profession by Mangiagalli.

Hirst, with 100 nonpregnant women with no signs of kidney or heart lesions, found the normal blood pressure to be 112 mm. That of 100 pregnant women, showing no signs of albuminuria or constitutional signs of toxæmia, was 118 mm. After 7 months of pregnancy there was a gradual rise, so that in the middle of the last month a fair average he found to be 124 mm., increasing slightly till the uterus is emptied, when there was a slight fall. Thirty nine women with eclampsia and eighteen who did not have eclampsia but had marked albuminuria, at the first examination showed the lowest blood pressure to be 142 mm. The highest in a woman without eclampsia was 192; the highest in an eclamptic was over 320 mm. One



patient examined, whose urine had no trace of albumen or casts, showed a blood pressure of 175 mm. On these symptoms alone, the diet was reduced, bowels kept open, and water forced. In spite of this, a week later the blood pressure was 180 mm. Four days after this albumen and casts appeared; symptoms increased at an alarming rate, and labor had to be induced six weeks short of term. Another patient seen at the fourth month, had a blood pressure of 118 to 120 mm. Blood pressure began to rise at the seventh month, and at the eighth month was 165 mm., when albumen and casts first made their appearance. Labor was induced  $2\frac{1}{2}$  weeks short of term.

Hirst concludes that a high and rising blood pressure is an invariable and early, often the earliest, sign of toxæmia in the latter half of pregnancy. C. B. I.

#### OPHTHALMOLOGY

Edited by  
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#### THE PUPILLARY SYMPTOMS OF THORACIC ANEURYSM.

William Osler showed at a clinical lecture (Practitioner 1910, LXXXIV), a patient with a large aneurysm of the arch of the aorta associated with unequal pupils and absent knee jerk. In his discussion of the pupillary symptoms, he recognized three groups of cases. In the first group there is involvement of the sympathetic nerve by direct pressure of the aneurysmal sac.

In the second class of cases the inequality of the pupils depends on the vascular condition of the iris. The vessels of the iris being spiral, or zigzag, the high blood pressure tends to lengthen them, and thus leads to a narrowing of the pupils, while a fall in pressure causes shortening of the vessels and enlargement of the pupil.

In the third group is found the association of pupillary symptoms, aneurysm and

tabes—the Babinski syndrome—all a part of the syphilitic infection; the irregularity of the pupils or the myosis being but the ocular manifestation of a tabetic or taboparetic state.

#### TRIGEMINAL NEURALGIA AND ITS TREATMENT BY ALCOHOL INJECTIONS.

In 1903, Schlosser, a Munich ophthalmologist, published his method of injection of strong alcohol into the main branches of the fifth nerve at their points of exit from the skull at the deep foramina. The action of the alcohol instantly paralyzes the nerve, destroying the nerve fibres at point of injection, if the needle has properly punctured the nerve sheath. The immediate result is anesthesia to all forms of sensation on the skin and mucous membrane supplied by the nerve below the point of injection.

Wilfred Harris reports in the British Medical Journal, June 11, 1910, his results in 50 cases of one or more branches of the trigeminal nerve neuralgia treated with alcoholic injections. Harris has found these injections a sure cure for supra-orbital neuralgia when inserted at the supra-orbital notch.

Of 33 cases neuralgia of some branch of the trigeminal nerve, 31 were completely relieved of the pain, for periods ranging from two months to two years, as a result of deep or superficial injections.

The author is convinced that the injection of the nerve trunk with strong alcohol is a sure cure for tic douloureux, though not a permanent cure as with excision of the gasserian ganglion. When the pain returns the same process can be repeated.

E. W. S.

The National Dental Association held an oral hygiene session at the Auditorium, Denver, on July 20, 1910. There were addresses by W. A. Evans, M. D., of Chicago, Ills., Herbert L. Wheeler, D.D.S., of New York City, and by W. G. Ebersole, M.D., D.D.S., of Cleveland, O. The meeting was successful and well attended.

**EAR, NOSE AND THROAT**

Edited by

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**THE ISTHMUS OF THE EUSTACHIAN TUBE.  
A CONTRIBUTION TO THE PATHOLOGY  
AND TREATMENT OF MIDDLE EAR  
DISEASES.**

Sidney Yankauer, (Laryngoscope, July 1910) advances some new ideas and work upon the eustachian tube, most clever in both their conception and achievement.

Beginning with the anatomy of the tube, he emphasizes that from every point of view, the pharyngeal portion of the tube should be considered a part of the naso-pharynx and the tympanic portion, a part of the tympanum. At the isthmus the naso-pharynx and the tympanum unite.

For the purpose of treatment, the isthmus may be reached from the naso-pharynx through the eustachian catheter and from the tympanum through an anterior perforation or incision in the membrana tympani.

It is essential to know exactly the position of any instrument used and the author has devised several, such as catheters, bougies, curettes, etc., properly graduated so that at all times this knowledge is at the disposal of the operator. With his applicator he makes applications to the tube in its entire length and by means of cocain and adrenalin can determine simple swelling from organic stricture. The shape of the isthmus, which the cotton tuft on the applicator frequently assumes, can be shown; which is of value in the choice of instruments for subsequent use.

After cocainization, if a bougie of 15 mm. fails to pass, a diagnosis of stricture is made.

In acute otitis media the inferior meatus is cocainized, the catheter passed, the eustachian tube also cocainized and an application of argyrol made to the tube. This

procedure gives an immediate cessation to the earache, tinnitus and frequently aborts an attack. After suppuration has occurred the discharge continues the usual length of time.

In subacute inflammation associated with serous or sero-mucous fluid excellent results have been accomplished by opening the tube in the above manner.

In chronic catarrhal otitis, patency of the tube can be obtained, facilitating the proper inflation of the tympanum.

Strictures are treated by sounds, first reducing the swelling, then passing the sound, then applying a 50% solution of argyrol and finally inflation and deflation of the tympanum. Should the sounds fail to produce results, the stricture is cut.

In the author's opinion the tube is much more tolerant of manipulation and local treatment than hitherto supposed.

In order to reach the isthmus from the tympanic side suitable instruments have been devised, for a description of which the reader is referred to the original article. The method of introduction and use is: a short speculum is placed in the canal, the instrument is then introduced as far as the eye can see, traction is then made upon the auricle upwards and backwards. Upon reaching the tympanum the instrument is rotated to bring its end into the anterior part of the tympanum and when the opening of the tube becomes visible and the instrument is placed within it it passes to the isthmus without difficulty. Among the instruments used is a knife, a probe and a curette.

The most important work done was upon subjects with chronic suppurative otitis media, in which it was desired to shut off the communication between the nasopharynx and the tympanum. This was done under cocain by means of the curette introduced as far as the isthmus, the mucous membrane divided in all directions down to the bone and then by an inward and

outward motion separated from the bone for a distance of .5 mm. The curette is then sharply withdrawn and in so doing the mucous membrane is everted. When the isthmus is slitlike, the mucous membrane cannot be everted and destruction of it is accomplished by a thorough curetage. The ear is then powdered with iodoform and plugged and the plug removed in twenty-four hours.

This operation is followed by a swelling of the inner tympanic wall similar to an edema, lasting from one to two weeks and is associated with a thin watery discharge. Another effect, is that the membrana tympani gradually becomes thinner and thinner until it fades away. It never regenerates. The ossicles remain. Owing to this action of the membrana tympani, several cases of otosclerosis were operated upon with good results. Many detailed case reports are published. C. E. C.

## Constituent Societies

### BOULDER COUNTY.

The regular monthly meeting of the **Boulder County Medical Society** was held in Boulder, Colo., July 7, 1910, at 4:45 p. m. The meeting was called to order by Vice President Trovillion. Minutes of the last meeting were read and approved.

Later the President, Dr. Jolley, took the chair, and called for reports of clinical cases. Dr. George Cattermole reported and showed the post mortem findings in a case of pneumothorax following pneumonia. Dr. O. M. Gilbert gave the clinical history and showed the kidneys of a man who died from tuberculosis of the kidneys. The right kidney was absolutely destroyed, as far as functioning area was concerned, and the left was more than two-thirds destroyed.

Dr. George Cattermole then gave an interesting report of the American Medical Association meeting in St. Louis.

Dr. W. L. Snear of Louisville was elected a member of the society.

The following amendment to the constitution was adopted:

"Every regular physician engaged in teaching and who may not be registered for the practice of medicine, and all retired physicians who have been honorable members of the profession" (shall be eligible).

The report of the committee on resolutions

concerning the action of the secretary of the State Board of Health in the quarantine of a diphtheria case was given and the committee discharged. A letter was read from Dr. Hugh L. Taylor explaining his action in the above mentioned case.

The fact that some of the undertakers had made charges for autopsies when they promised not to do so, was discussed and left open for action at the next meeting.

A report of the committee on arrangements for the annual banquet was read and approved.

A resolution concerning the testing of dairy cattle for tuberculosis was proposed by Dr. O. M. Gilbert, and after some discussion on motion made by Dr. George Cattermole and seconded by Dr. Farrington, the following resolution was adopted:

"Inasmuch as the milk from tuberculous dairy cattle constitutes one of the sources of infection of human beings, particularly of children, and, as a considerable number of the dairymen of Boulder and vicinity, recognizing this danger, have proceeded to eliminate by the aid of the tuberculin test, such cattle from their herds:

"We, the members of the Boulder County Medical Society, in regular session assembled, do hereby most heartily commend the public spirit, progressiveness and concern for the health of the community, which has prompted these gentlemen to voluntarily and without compulsion, take this progressive step.

"It is hereby ordered that a copy of these resolutions be sent to each of the daily and the weekly papers of the city, and to the respective dairymen herein alluded to, a list of whom has been furnished by the dairy commissioner."

There being no further business the meeting adjourned.

C. GILLASPIE,  
Secretary.

## Books Reviewed

**The Pathology of the Living, and Other Essays**, by B. G. A. Moynihan, M.S., (London), F. R. C. S., Honorary Surgeon to Leeds General Infirmary, Professor of Clinical Surgery at the University of Leeds, England. 12mo, of 260 pages. Philadelphia and London. W. B. Saunders Co., 1910. Cloth, \$2.00 net.

In this volume the papers of Dr. Moynihan, which have appeared in the *British Medical Journal* and elsewhere, have been collected into book form and make very interesting reading. The author presents a view of his wide surgical experience along the line of gastro-intestinal operations. This small work contains much more of value than many larger volumes dealing with the same subject. He states that medicine has been too much concerned with terminal events, and that we must pay closer attention to the earlier disturbances so that appropriate medical or surgical intervention may be adopted at the earlier and safer stage. The majority of the so-called "func-

tional diseases" are chiefly dependent upon a demonstrable pathological lesion. Those found at the autopsy are terminal events and do not give a clear picture, or the right impression of the frequency of these conditions. Gall-stones are much more common than post-mortem statistics show. Also, the surgical operation will reveal a carcinoma implanted on the base of a pyloric or duodenal ulcer, whereas at autopsy the terminal stage shows the cancer when it has overspread and obscured the starting point. He believes that time will show that nearly all cases of protracted and recurring dyspepsia are not due to vices of secretion, although indeed they may be present, but to organic changes in one or the other of the viscera. In all these essays the author makes a plea for early diagnosis that surgical intervention may be procured before the process has gone too far.

**Duodenal Ulcer**, by B. G. A. Moynihan, M.S., (London), F.R.C.S., Honorary Surgeon to Leeds General Infirmary, Professor of Clinical Surgery at the University of Leeds, England. Octavo of 379 pages. Philadelphia and London. W. B. Saunders Co., 1910. Cloth, \$4 net.

In this volume the history, pathology, symptoms, diagnosis, prognosis and treatment of duodenal ulcer are treated in a clear and concise manner. The condition, which is comparatively common, is important, and our knowledge of it dates back only about ten years, and is due in great part to the labors of this author. Moynihan states that the derangement of the functions of the stomach, such as hyperchlorhydria, or neuroses, are really due to organic disease, and of the various forms of this trouble duodenal ulcer is most conspicuous. The book is interesting and full of good points, as are all the writings of this man.

**Surgical After-Treatment**, a Manual of the Conduct of Surgical Convalescence, by L. R. G. Crandon, A.M., M.D., Assistant in Surgery at Harvard Medical School, Consulting Surgeon Frost General Hospital. 803 pages and 265 original illustrations. Philadelphia and London. W. B. Saunders Co., 1910.

This book is one which has long been needed. The author states it has been written for two classes of practitioners—house surgeons in hospitals and general practitioners in communities which are not surgical centers. It is a work which is of value to any one who does surgery, is very complete and interestingly written and the many illustrations are good. The chapters treat on a subject, as for example, Kidney Surgery, describing the treatment for each class of operation and complications which may arise. The chapters treat consecutively operations on all parts of the body. Dr. George P. Sanborn of Boston has written a chapter on Vaccine Therapy, and Dr. Frank P. Granger of Boston, one on Electrotherapy. This is a book that is decidedly up-to-date and one which will be appreciated.

Dr. O. W. Swope, formerly of Holly, has located at Wichita, Kans.

## Books Received

**Transactions of the College of Physicians**, Philadelphia, 1909, third series, volume 31. Volume contains papers read before the College from January, 1909, to December, 1909. Printed by Dornan, Philadelphia. 657 pages with illustrations.

**General Medicine**, Practical Medicine Series, Vol. I., Series 1910. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. One of a series of ten issued at about monthly intervals, and covering the entire field of Medicine and Surgery. Each volume complete for the year prior to its publication on the subject of which it treats. Price for this volume, \$1.50, or \$10.00 for the series of 10 volumes. 406 pages. Printed by The Year Book Publishers, 40 Dearborn St., Chicago.

**General Surgery**, Practical Medicine Series, Vol. II., Series 1910. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in the Northwestern University, Chicago, Ills. 615 pages. One of a series of ten issued at about monthly intervals and covering the entire field of Medicine and Surgery. Each volume complete for the year prior to its publication on the subject of which it treats. Price, \$2.00 for this volume, or \$10.00 for the series of 10 volumes. Printed by The Year Book Publishers, 40 Dearborn St., Chicago.

**The Eye, Ear, Nose and Throat**, Practical Medicine Series, Vol. III., Series 1910. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D. 336 pages. One of a series of ten issued at about monthly intervals and covering the entire field of Medicine and Surgery. Each volume complete for the year prior to its publication on the subject of which it treats. Price for this volume \$1.50, or \$10.00 for the series of ten volumes. Printed by The Year Book Publishers, 40 Dearborn St., Chicago.

## Pamphlets and Reprints

**The Straw Itch**, (Dermatitis Schambergi), A Disease New to American Physicians, by Joseph Goldberger, Passed Assistant Surgeon, United States Public Health and Marine Hospital Service. 12 pages with illustrations. Printed at Washington by Government Printing Office.

**Appendicitis Associated With a Foetal Position of the Caecum in the Subhepatic Position**, by Clarence B. Ingraham, M.D., Denver, Colo. 11 pages with illustrations. Reprint from the New York Medical Journal for June 11, 1910.

**Tuberculosis, its Nature and Prevention**, by F. C. Smith, Passed Assistant Surgeon, and

prepared by direction of the Surgeon-General. 13 pages with illustrations. Printed at Government Printing Office, Washington.

**The Relation of Climate to the Treatment of Pulmonary Tuberculosis**, by F. C. Smith, Passed Assistant Surgeon. Prepared by direction of the Surgeon-General. 17 pages. Printed at Government Printing Office, Washington.

**General Observations on the Binomics of the Rodent and Human Fleas**, by Maurice B. Mitzmain, M.S., Assistant, Plague Laboratory, United States Public Health and Marine Hospital Service. Prepared by direction of the Surgeon-General. 34 pages. Printed at Government Printing Office, Washington.

**The Bleaching of Flour and the Effect of Nitrates on Certain Medicinal Substances**, by Worth Hale, A.B., M.D. 44 pages. Printed at Government Printing Office, Washington.

**Studies Upon Anaphylaxis With Special Reference to the Antibodies Concerned**, by John F. Anderson, Passed Assistant Surgeon, and W. H. Frost, Passed Assistant Surgeon. 56 pages. Printed at Government Printing Office at Washington.

**Chronic Catarrhal Inflammation of the Middle Ear**, by Lefferts A. McClelland, M.D., Professor of Diseases of the Ear, Nose and Throat in the Brooklyn Post-Graduate Medical School, Brooklyn, N. Y. Reprint from the American Journal of Surgery of May, 1910.

**Studies Upon Leprosy: VII., A Statistical Study of an Endemic Focus of Leprosy**, by Walter R. Brinckerhoff, S.B., M.D., Assistant Director, and A. C. Reinecke, Technical Assistant, Leprosy Investigation Station, Public Health and Marine Hospital Service. Printed at Government Printing Office, Washington, 1910.

**A Palliative Treatment for Leprous Rhinitis**, by A. C. Wayson, M.D., Member of the Board of Health of the Territory of Hawaii, and A. C. Reinecke, Technical Assistant, Leprosy Investigation Station, Public Health and Marine Hospital Service. Printed at Government Printing Office, Washington, 1910.

**Hookworm Disease (or Ground-Itch Anemia), Its Nature, Treatment and Prevention**, by Ch. Wardell Stiles, Ph.D., Professor of Zoology, Hygienic Laboratory. Prepared by Direction of the Surgeon-General. 40 pages with illustrations. Printed at Government Printing Office, Washington, 1910.

The tenth annual meeting of the American Society of Orthodontists was held July 13th, 14th and 15th in the Ladies' Ordinary at the Brown Palace hotel, Denver, Colo.

Dr. M. K. Kassabian of Philadelphia, who is well known for his x-ray work and electrotherapeutics, died July 13th in the Jefferson hospital as a result of carcinomatous changes set up by the x-ray. His loss will be greatly felt.

## Items

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*If your dues are not paid to your county society, you stand suspended. Attend to it now, by sending your dues to your secretary. If you have forgotten his name and address, you will find it on the inside of the front cover of this journal. Don't wait for him to send you another notice. He is just as busy as you are.*

\*\*\*\*\*

The physicians of Huerfano County have organized a Medical Society and have applied to the State Medical Society for a charter. The names of the charter members are: Dr. T. D. Baird, president; Dr. I. B. Lahmer, vice president; Dr. George D. Andrews, Dr. A. Abers, Dr. T. F. Tamms, Dr. P. P. Lester, Dr. P. G. Mathews, secretary, all of Walsenburg, Colo.; Dr. A. R. Scott, Strong, Colo.; Dr. W. S. Chapman, delegate to state society, Rouse, Colo. and Dr. A. F. Stanley, Pryor, Colo. These gentlemen are to be congratulated upon having perfected the organization of the Huerfano County Medical Society. There are several other physicians in the county who have not yet joined, but it is expected that their names will soon be enrolled. We bespeak for this society the success which it deserves, and trust that the new society will be well represented at the coming meeting of the state society at Colorado Springs, October 11-12-13.

Dr. Edward Jackson of Denver, Colo., has been elected vice president of the American Ophthalmological Society.

Dr. O. P. Fowler of Denver, Colo., will limit his practice to general surgery, all diseases of the genito-urinary tract, including cystoscopy and kidney catheterization.

Dr. F. W. Bancroft of Denver, Colo., will return to the city about the middle of August. He has been spending about five weeks on the coast of Maine.

Drs. E. W. Ragsdale, E. Gard Edwards and Charles H. Farthing, of La Junta, S. H. Savage of Swink and G. B. Edwards of Cheraw have organized the Otero Hospital Association and opened an institution to be known as "The Otero Hospital" at La Junta, Colo.

Dr. Royal Finney, son of Dr. F. Finney, La Junta, a recent graduate of the Harvard Medical School, has entered C. F. & I. Hospital, Pueblo, as an interne.

Dr. Amos R. Solenberger has removed to 825 North Nevada Avenue, Colorado Springs.

Dr. Franklin Nicholas Cochems and Myra Halstead Nugent were united in marriage on Sunday, June 19, 1910, at South Haven, Mich. Dr. and Mrs. Cochems will be at home at Sallida, Colo., after August 1st.

# COLORADO MEDICINE

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All communications to this publication must be made to it exclusively. It will be more satisfactory to all concerned if contributions are typewritten.

Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions.

Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession, will be gratefully acknowledged. The name of the sender should be given.

The journal will be issued on the 15th of each month. All copy must reach the editor not later than the first of the month. Advertisements of proprietary medicines will be accepted provided the preparations advertised have been approved by the council of pharmacy and chemistry of the American Medical Association. Address all communications regarding advertising to

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SEPTEMBER, 1910

NO. 9

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

MANY MEMBERS THROUGHOUT THE STATE HAVE FAILED TO PAY THEIR DUES TO THEIR COUNTY SOCIETY AND ARE THEREFORE SUSPENDED FROM ALL PRIVILEGES OF BOTH THE COUNTY AND STATE MEDICAL SOCIETY. SUBSCRIPTIONS TO THIS JOURNAL ARE IN ARREARS AND ALL WHO HAVE NOT MADE GOOD BEFORE THE NEXT DATE OF GOING TO PRESS WILL BE STRICKEN FROM THE MAILING LIST. PAY UP PROMPTLY AND ATTEND THE ANNUAL MEETING.

### RAILROAD RATES FOR THE ANNUAL MEETING.

The railroads of Colorado have agreed to give reduced rates of one and one-third fares for the round trip from all eastern points and one and one-fifth fares from all

mountain points on the certificate plan to all attending the meeting of the Colorado State Medical Society at Colorado Springs. Tickets should be bought *one way only*, and *when buying, a certificate must be obtained from the agent*. This certificate must be presented to the Secretary, Doctor Black, at the meeting and when countersigned by him will be good for the reduced fare for the return ticket.

### ANNUAL MEETING OF THE STATE SOCIETY AT COLORADO SPRINGS OCTOBER 11, 12, 13.

The completed program is now in the hands of the members. It is one of the strongest in the history of the society. For several years the general program has been made up by representatives from county societies. In many respects this was satis-

factory, as every part of the state was represented. The weak spot in it lay in the fact that it was not a voluntary program. Men selected to represent their societies, were, in some instances, slow to respond, did it half-heartedly, or, worse still, allowed their names to be placed on the program and then failed to appear at the meeting or even to send on the paper for some other members of their society to read. This left large holes in the program, which could not be filled.

The Section work provided for a larger number of papers than could otherwise be provided for. The Sections were hard to accommodate, however, because of the few hotels being unable to provide suitable meeting places. Then again, many of our members were disappointed at not being able to hear papers being read at the same time in different sections.

This year, the Committee on Scientific Work decided that it would be a good idea to try the general session plan, which had for many years proven so satisfactory at our annual meetings. A call was made early in the winter for volunteers for this program. The responses came in thick and fast, so that in a short time the program was full. In order to extend the scope of papers and bring many good men in the state into the work, one afternoon was set aside as a *Clinical Afternoon*. Each speaker will be allowed five minutes in which to report a case, and ten minutes will be allowed for its discussion. It is believed that this *Clinical Afternoon* will prove to be very attractive.

It is hoped that members will compare the plan of this year with the plan of previous years, with the sections in the morning and the Representatives' Program in the afternoon. If expressions of approval or disapproval would be freely made, they would serve to guide us in the adoption of a plan for next year.

Our society is still not so large, that we

are compelled to resort to sections entirely, and if better results are obtained from general sessions, and members are better pleased with that arrangement, they can be continued.

It is impossible to accommodate all who would like to read papers, when there is not room for more than thirty or thirty-five papers on the program. This, however, should make the places more eagerly sought, and the men who fill them, should make every endeavor to be present to read their papers.

A member who is on the program, and is absolutely unable to attend, should notify the secretary and at the same time send on his paper to be read by title or by some fellow-member. This, in the past, has been largely neglected. Such members should be debarred from again appearing on the program for two years, as is the custom in many other societies.

The month of October is a delightful season of the year at Colorado Springs. The tourist season is over, and the Antlers Hotel can easily take care of us.

Make your plans now to attend this meeting, and make it the greatest success in the history of the society.

#### A NEW REMEDY FOR SYPHILIS.

Those who have not read in the Journal of the A. M. A. for August 13, 1910, of the remarkably successful trials of a new remedy for syphilis put forth by Ehrlich of Frankfurt will be interested in the abstract of the matter which appears on page 355 of this issue. The remedy, called "606," a compound of arsenic and aniline allied in arsenilic acid, is used by intramuscular injection. Those who have used it state that it has a remarkable, even a surprising action on the spirochete which in many cases disappears after twenty-four to forty-eight hours following one injection, the Wasserman reaction being negative when just before it was positive, and

further, that it acts on the symptoms of the disease with a rapidity and thoroughness which can not be approached by any other known remedy, all manifestations vanishing in from eight to fourteen days. While these surprising results are most manifest in the early stages, it is reported that the late lesions show a relatively prompt improvement.

In this connection it is well to bear in mind the results of previous use of arsenic in syphilis, a suggestion by no means new. Some three years ago, following the report by Koch of the effect of atoxyl, a sodium arsenilate containing from 26 to 37 per cent. of arsenic, upon the trypanosomes and its successful use in sleeping sickness, Lassar of Berlin suggested that it might have an equally desirable influence on the spirochete. The suggestion was followed and later continental observers reported some 145 cases of syphilis, in many of which mercury had been of no avail, that were greatly benefited by its use, the spirochete disappearing from the lesions and the Wasserman reaction ceasing. Very soon ophthalmologists reported that the use of atoxyl was followed by optic nerve atrophy and blindness in many cases and this evidence rapidly accumulated. Later another preparation of arsenic acid, arsacetin, was put forward as a substitute, but it appears that it had a similar effect upon the optic nerve. Ehrlich made observations of the effect of arsacetin on animals and announced that while it had less effect on animal cells than atoxyl the dangers accompanying its use were real.

Ehrlich appears, however, to have been so impressed by the beneficial effect of such preparations of arsenic upon syphilis that he continued his investigations with the result that in November last he put this remedy, "606," in the hands of chosen men for use in hospital work only, that its effects and dosage, number and repetition,

should be fully determined before giving it to the general profession. The reports before us are the results of this preliminary work, thus wisely controlled under the direction of some of the best clinicians in this department in Germany. Statements by men so eminent and conservative must command the attention of the professional world. Further and more detailed reports will be awaited with the deepest interest. It has already been claimed that the French preparation of atoxyl was free from the dangers to the optic nerve. It is to be hoped most earnestly that Ehrlich has succeeded in eliminating this risk from "606," and that the further reports of its use will be not less favorable than those before us.

It is asserted that "606" is already patented. This, if a fact, must of necessity be a taint on the scientific value of the paeans of praise accorded it, and diminish our confidence in the disinterestedness with which it is being exploited, and especially so in view of subsequent rumors of paralysis of the bladder following its use with insufficient telegraphic explanation by Ehrlich in reply to the assertion.

#### *LODGE DOCTORS.*

We understand that some Denver promoters are forming so-called lodges throughout the state. These lodges are ostensibly fraternal in their character, but their principal excuse for existence is to furnish members with medical and surgical attention for a stipulated monthly sum.

The promoters go from town to town and represent to the medical men whom they approach that they call only upon the leading physicians, and that they do not want the second-best, as lodge physicians. They assert that this is true wherever lodges have been formed. If their proposition is not listened to kindly, they act very independently, informing the doctor that he was only approached because he was con-



sidered one of the leading men, that plenty of others, just as good, will be glad of the appointment.

The trouble lies in the fact that every community has a new man. When they get to him he is flattered and since he is not doing much and the opportunity is offered him of immediately enlarging his acquaintances and getting into families of physicians who have long done their work, he is tempted to accept. If he is the right kind of a man he feels pretty cheap about it. He knows he has done an underhanded, mean thing toward every other physician in his community. Every physician looks down upon him and he ought to be looked down upon—he is a disgrace to his calling. He is guilty of a moral theft. While robbing others, he has robbed himself of his self-respect, one of his best assets. The end is not yet, for once having lowered his moral standard, he does not hesitate to lower it further by not doing his best work. For example: Mr. Smith's family are eternally sick, first Smith, then his wife, and then the children. They get him out at all times of the night and day. What does he get? Perhaps ten cents a head per month for each member of the family. No wonder he gets slack and slipshod in his manner of going into the diagnosis of their diseases. It is not human nature for man to do his best work and be badly underpaid for it. He may do well for a time, but sooner or later he will begin to weaken, and when he does he is lost. The slipshod habit once acquired can never be shaken off.

It is to be hoped that no member of "The Colorado State Medical Society" will lend himself to a cause that is demoralizing to both the profession he represents and to himself. The medical club and the medical lodge is promoted by men who have no interest in our ethics. Professional reputation and pride in our calling as physicians means nothing to them. Money is the only thing their commercial

natures are capable of understanding. If the lid were lifted from their enterprise it would expose the fact that a large part of the funds received by local branches goes to the head office. Under the guise of fraternity the officers of the local branches serve without pay, or practically so, but not the officers of the head office. They divide the spoils! "Spoils"? They are the hard won earnings of the underpaid doctor that he foolishly consents should be diverted from his honest pocket and those of his confreres. He is being "sweated." He does the work. Others get the benefits and the profits which should go to the betterment of his family life. The doctor is the real dupe! He is the one who makes the whole thing possible. Without him the scheme falls flat. Should the promoter go home *without* having formed the lodge not one medical man having been found ready to sell himself for that miserable mess of pottage, he would be angry, it is true, but he would have a wholesome respect for the medical profession of that community, with the knowledge that they were not "suckers."

From several investigations it is estimated that on an average about fifteen per cent. of the prison population of the country is afflicted with tuberculosis. On this basis, out of the 80,000 prisoners housed in the penal institutions of continental United States at any given time, not less than 12,000 are infected with this disease.

That there are 12,000 tuberculosis prisoners in the state, federal and local prisons and jails of the United States, with less than twenty-five special institutions and hardly 800 beds for their treatment, are some of the charges made by the National Association for the Study and Prevention of Tuberculosis.

The fact that 100,000 prisoners are discharged from the jails and prisons of the country annually, and that from ten to fifteen per cent. of them have tuberculosis, makes the problem of providing special places for their treatment while they are confined a serious one. So important is the problem that the Prison Association of New York in co-operation with the State Charities Aid Association, is preparing to inaugurate a special campaign for the prevention of tuberculosis in the penal institutions of the state, and will seek to enlist the co-operation of all prison physicians and anti-tuberculosis societies in this work.

## Original Articles

### DIGESTION AND INDIGESTION.\*

BY CHAS. B. DYDE, M. D.,  
GREELEY, COLORADO.

The title of this paper was suggested by reading an article by Dr. John B. Deaver, in which he states that physicians must study their cases of indigestion more thoroughly. A charge against the profession of insufficient study in cases of headache, for example, could probably be equally well sustained. But in the case of dyspepsia the advice given by Deaver contains a truth, the germs of which have been developing in the professional mind for several years past.

The term "indigestion or dyspepsia" includes a number of symptoms that are usually considered due to some disorder of the digestive tract. Among these we find coated tongue, offensive breath, loss of appetite, nausea and vomiting, flatulence, belching and eructations, heartburn, and cardiac palpitation, water brash and gastric uneasiness, distress or pain. As recently as the early '90s authorities described dyspepsia as a digestive disorder which may be marked by one or more of the above symptoms giving the appropriate treatment for each.

For want of appetite an acid mixture or bitter infusion was prescribed; for nausea and vomiting, regulation of the diet, bismuth, and hydrocyanic acid: for flatulence and belching, carminatives, pepsin and charcoal; for epigastric distress, carminatives, sedatives and counter-irritation. In this manner the patient was given temporary relief with more or less success according to the nature of the ailment and the skill of the attending physician. At this time and until recent years, the treatment of dyspepsia and its

underlying conditions was entirely in the hands of the internist. At the present time a diagnosis of chronic indigestion is not acceptable unless the term indigestion is so modified that its origin is apparent, when the cause of the trouble receives its appropriate medical or surgical treatment.

The change in the mental attitude of the profession towards this large and important class of cases has been largely due to the accurate work of the abdominal surgeon. He has entered the field and transferred the treatment of a large proportion of chronic stomach cases to the surgical wards. The diagnosis of chronic stomach ailments as being due to some definite pathological condition which can be demonstrated within the living body, and at times removed, has assisted in the development of the expression, "living pathology." The difference in accuracy and significance between the pathology of the living and that of the dead is evident if expressed in this manner. Pathology of the living is demonstrated in those cases which seek relief for some trouble diagnosed as being amenable to surgical treatment. The abdomen is opened, good and sufficient pathological proof for the clinical data is found and the patient subsequently cured or relieved according to the nature of his ailment.

In pathology of the dead an emaciated cadaver, apparently dead from pulmonary tuberculosis, comes to autopsy. The lung condition is satisfactorily demonstrated and ample cause for death is found. Hence it is easy to overlook a gastric or duodenal ulcer, which was the primary lesion. On account of the disorder to nutrition which it entailed, a secondary pulmonary infection with the bacillus of tuberculosis was an easy matter. Again, a patient who has for years been a sufferer from dyspepsia and bilious colic is permanently cured by removal of gall-stones and drainage of the gall-bladder. This same patient,

\* Read before the Colorado State Medical Society, Estes Park, September 14-16, 1909.

possibly, refused to accept advice for operative interference and dies a few years later from acute pneumonia. The pathologist after demonstrating the pulmonary and cardiac conditions discovers a gall-bladder full of stones, and informs the class "here is another case in which gall-stones caused no symptoms."

While the abdominal surgeon has been active along these lines, the internist and laboratory man have not been idle. The result has been an accumulation of data on the psychology of digestion, and new light on digestive disturbances.

Before briefly reviewing the diseases in which dyspepsia is a leading or prominent symptom, it will be of advantage to consider some of the facts relating to normal digestion and some of the factors which tend to disturb the equilibrium of the digestive tract. Normal digestion requires a normal secretion of digestive fluids and normal motions of the viscera involved. Sensation is absent except that of satisfaction of hunger and general contentment. The first element in the process of digestion is mental. This psychological influence is, I think, rather underestimated. The sight, smell, or thought of an appetizing meal causes a flow of gastric juice. In this way the stomach is prepared in advance for the entrance of food. Pleasant surroundings, a cheerful frame of mind and congenial companions continue to exert a favorable influence over both secretion and motion. Excitement, anger and other intense emotions have an opposite effect. After a manner this has been known for a long time and practiced by actors, orators, lawyers, ministers, and even physicians in that they refrain from a hearty meal before undertaking a task which calls for severe mental exertion. Experimenters have observed that "tom"-cats are poor subjects on which to conduct experiments relating to digestion. When they are tied on their backs in a position to observe, the

visceral movements, by means of the x-ray, their anger and resentment arrest peristaltic action and cause rhythmic segmentation to cease. The old adage, "laugh and grow fat," takes on a new significance and helps us to realize that good friends and a good time produce a frame of mind which favors digestion and assimilation. Passing by our fellow townsmen, well known for their sunny dispositions, good digestion, and portly forms, we pause to note our President, always depicted with a smile, and requiring a bathtub in which four Greeley physicians could peacefully recline. Again, let us note that jovial companion of Prince Hal's youthful days, merry Jack Falstaff, always ready for a joke, a capon, and a bowl of punch. In his own words he was "sweet," "kind," "true," "valiant," and "plump" Jack Falstaff, "a goodly portly man i' faith and a corpulent; of a cheerful look, a pleasing eye and a most noble carriage . . . and now I remember me his name is 'Falstaff.'"

On the other hand how suspicious was Julius Caesar of that sour visaged Cassius: "Let me have men about me that are fat, Sleek headed men and such as sleep o' nights.

Yon Cassius has a lean and hungry look: He thinks too much, such men are dangerous,

Would he were fatter."

Poor appetite, coated tongue, bad breath and constipation, with loss of weight and vitality are frequently observed in melancholia and those who are low spirited, while the optimistic Eddyite seems to enjoy considerable immunity from disease.

The food, having passed into the stomach, salivary digestion continues for a time in the cardiac end, while the food itself excites the continued secretion of gastric juice. When the stomach contents in the pyloric end have attained a certain acidity, they reflexly cause a relaxation of the pyloric sphincter, which until this time has

been firmly closed. At the same time part of the chyme is squeezed through the pylorus into the duodenum. The acid contents now in the duodenum have the opposite effect on the pyloric sphincter, causing it to firmly contract until the acid is neutralized. The presence of the acid chyme in the duodenum likewise causes a reflex flow of bile, pancreatic and intestinal juices by means of which its acidity is neutralized. Thus a close reciprocal relation exists between gastric and duodenal digestion, which requires normal secretion in each organ, for its consummation.

Lack of normal acidity in the stomach would not provide a sufficient stimulus for relaxation of the sphincter. While a failure of the duodenal secretions to neutralize a normal or excessive acidity would likewise cause a delay in emptying of the stomach contents. Altered or impaired secretion may thus contribute to the series of changes which obtain when the stomach contents are delayed in their progress. Stagnation of stomach contents is followed by fermentation, gas formation, distention, epigastric distress, belching and eructation with vomiting when the contents still fail to be delivered through the pylorus.

Pyloric spasm with digestive disturbances may be caused by a number of intra-abdominal affections. When we consider the effect on secretion and motion that may originate from mental impressions it is not surprising that sources of irritation in the fore and midgut—viscera supplied by the ramifying plexuses of the abdominal sympathetic nerves should initiate reflex disturbances of motion and secretion, in its component parts. Such reflexes do arise in gastric, duodenal and intestinal ulcers, cholecystitis, chronic appendicitis, prolapsed kidney, and internal herniæ, and are sometimes expressed as pyloric spasm. The result is stagnation and disordered digestion. Stomach drainage may not only be retarded by reflex disturbances, but is

seriously interfered with in the true stenoses of malignant disease, and stricture following ulcer; in cases in which the pylorus or duodenum is adherent to surrounding structures, in kinking at the pylorus, due to gastric ptoses; and in atony of the stomach walls.

The study of indigestion would be somewhat simplified if we could limit our attention to the gastro-intestinal tract and its associated glands. This is impossible on account of the wide range of systemic disturbances and personal habits which affect the digestion through the welfare of the individual as a whole. Stockton says, "The pathology of stomach diseases is not limited to that organ, but is the expression there of disturbances that may be widely distributed throughout the body. We perhaps realize this," he continues, "when we advise plenty of sleep, fresh air, sunlight, proper exercise and rest, and due attention to bowels, kidneys and skin."

The influence of the mind and the effect of reflexes transmitted through the "abdominal brain" have been alluded to. It is only necessary to mention the digestive disturbances present during the course of acute and chronic infectious diseases. Typhoid and pulmonary tuberculosis are familiar examples.

We have a clear and definite picture of altered function and later structure attending chronic pulmonary cardiac and hepatic diseases. When the right heart becomes inadequate in heart-disease or following chronic bronchitis, emphysema or other chronic lung disease, the blood current is retarded in the hepatic veins. This results in passive congestion and damaged function of the liver. Circulation is now impaired in the portal vein and its branches with congestion throughout the digestive tract. Changes in secretion and motion follow with an increase in the flow of mucus. Finally there results tissue changes in the walls of the stomach and in-

testines, with destruction of the secreting glands.

Secretion from the various digestive glands is dependent upon the quantity and quality of the arterial blood supply. We have, therefore digestive troubles in elderly people, in whom arterio-sclerosis is present in the abdominal aorta and its branches. These vessels fail to respond to the vasomotor requirements of digestion. Temporary or permanent changes in the blood itself is productive of (altered) secretion and disturbed digestion. We have a familiar illustration in young girls affected with chlorosis, while a more serious type is presented in pernicious anæmia. The picture of age-incidence, marked weakness, pallor, lack of hydrochloric acid and other digestive troubles, found in pernicious anæmia, may, and has been mistaken for malignant disease of the stomach. The contamination of the blood stream which follows the imperfect elimination of chronic kidney disease, produces gastric and intestinal disturbances probably central in origin. We must, therefore, admit "that it is the man that is sick and the disease shows itself sometimes here, sometimes there."

W. J. Mayo in his clinic is wont to express the variety of chronic stomach troubles and their distribution in a graphic way. "If," he says, "you take ten cases of chronic stomach trouble, five will be surgical cases and five will be non-surgical cases. Of the five surgical cases, the first has not yet been worked out. The second is due to the gall-bladder, the third to the appendix; of the two remaining cases, one is ulcer, the other cancer."

The first case of the five said to be as yet "not worked out" may possibly include the various abdominal ptoses. Here we have a condition in which the abdominal walls are lax, and the supports of the abdominal organs relaxed. As a result the organs prolapse. Enteroptosis, a common

combination according to Glenard, includes ptosis of the stomach, intestines and right kidney. The sagging of the organs produces kinking at the pylorus, changes in circulation and innervation with derangement of motion and secretion. This case is likely to be a woman who has borne children. Mumford says: "So many are the possibilities, the wonder is how any woman escapes . . . and as a fact a large number of women do show such signs."

The second case, due to the gall-bladder, is four out of five times a woman. She has likely borne children or may have a history of typhoid fever. She has had stomach trouble and bilious attacks for years, occasionally attacks of colic and possibly jaundice. In disturbed digestion due to cholecystitis we think of the proximity of the gall-bladder to the duodenum, the "torcular herophili" of the digestive system; we think of the irritable reflexes with hyperacidity, pyloric spasm and stagnation; finally we think of the part which the bile plays in digestion, and the stage of digestion when the flow of bile is induced by the acid chyme in the duodenum.

Deaver says the appendix is the most common cause of dyspepsia. Considering disorders of the appendix in this light we must lay aside the idea that symptoms of acute appendicitis are necessary. The appendix, like the gall-bladder, is an intestinal diverticulum, and like it is subject to intestinal infections, attenuated in character and chronic in nature. It is during the chronic stage when acute exacerbations are absent or manifested only by dyspepsia that it is important to make the diagnosis.

Riedel states that "appendicitis is almost always a pre-existing disease of old standing which develops insidiously and almost without symptoms. It appears precisely as does cholecystitis through the lighting up of an acute inflammatory process, in an appendix primarily the seat of chronic disease." This case is more than

twice as likely to be a man—a man who has still a large part of his life before him. He has had constipation and indigestion for some time and may have attacks of colic. At this time deep pressure elicits appendiceal tenderness.

If the case of stomach trouble affected with ulcer is young it is probably a girl with more or less anæmia, while if in middle life the chances are that it is a man who is rendered an invalid by frequent attacks of epigastric pain and indigestion.

About one-half of all cancers occur in the stomach, in the proportion of five males to four females, and usually in one who has at least attained middle life. A patient of this age who for some time has been complaining of increasing pain and indigestion with general weakness and loss of weight is open to the suspicion of malignant disease of the stomach, if nothing else can be found to sufficiently account for this condition. The abdomen should be explored early before enlarged glands, tumor, and cachexia complete a picture in which "hope deferred, maketh the heart sick."

In the five cases of chronic stomach trouble which are not surgical we may expect to see an occasional middle-aged or elderly man with chronic gastritis. His habits as to alcohol are likely affirmative. This disease is not so common as in the days when the diagnosis of chronic indigestion lay between cancer, ulcer and chronic gastritis. The majority of patients found in the class of non-surgical cases will be composed of men and women, suffering from functional disturbances of the digestive organs. These cases include the great mass of what are termed gastric neuroses. Gastric neuroses or functional stomach disorders are rather intangible troubles, as they are based on no definite pathological condition. Many disorders formerly classed as neuroses have by means of

living pathology passed into the class of definite organic ailments, as gastralgia, due to ulcer or to the gall-bladder; pyloro-spasm, due to ulcer, gall-bladder or appendix. Knowing this many claim that these definite clinical phenomena are always based on some organic foundation if it only could be found.

This large body of stomach disorders subject to the classification of neuroses may be either mono-symptomatic, in which one symptom predominates, as gastralgia, a disorder of sensation, pyloro-spasm, a disorder of motion, and hypersecretion, a disorder of secretion; or poly-symptomatic, as in the varied gastric phenomena of nervous dyspepsia.

Whether expressed as one symptom, or many, neuroses may be said to be due, firstly, to some nearby or distant source of irritation, in a system which has always been or has become susceptible to an exaggeration of nervous impulses. In this manner astigmatism, prolapse of kidney, or retroversion of the uterus may underlie stomach disorders. They may be due secondly to an irritable weakness or depression of the nervous system, as found in neurasthenia, caused by mental, moral or physical excesses. There has been some "leak of energy" which has been impressed on the abdominal sympathetic system, and there expressed as imperfect function of the digestive organs. With this wide causation of disturbed digestion we may readily feel that there is plenty of room for mental exercise in the study of our cases of chronic indigestion.

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Flies are pests and a potent factor in the carrying of disease. Households should be protected from them. A little care would exterminate them. Experiments made by Dr. John W. Viers of Chicago show that the larva may be readily destroyed by sprinkling a solution of phenol on their hatching grounds, garbage and manure.

## GUNSHOT WOUNDS OF THE ABDOMEN.\*

BY H. R. BULL, M. D.,  
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As a basis for a brief consideration of the subject, gunshot wounds of the abdomen, the following case is reported:

On January 4, 1909, Mr. J. C. P., 18 years of age, was accidentally shot through the abdomen by a .22 rifle bullet at a range of two or three feet. The accident occurred near Molina, a distance of forty-five miles from Grand Junction, at about 3 o'clock in the afternoon. At 11 p. m. I was notified that the patient was being brought to Grand Junction in an automobile and to make preparation to take care of him. The party reached St. Mary's Hospital at 7 a. m., January 5th, being on the road all night—one of the coldest nights of the winter. The patient was found to be considerably shocked from cold and exposure, as well as from the injury, and it required an hour and a half to warm him up and get him in condition to go on the table. He was anesthetised by Dr. C. N. Needham and I was assisted by Dr. K. Hanson. We found the point of entrance of the bullet to be one inch to the right and one-half inch below the umbilicus. The wound had been probed by other physicians before starting for the hospital with the patient, but it had given no definite information. A median incision was made, followed by a systematic examination of the intestines. We found three perforations in the ileum, which as they were located were closed by one and two rows of Lambert's sutures. A fourth perforation was found in the cæcum just at the base of the appendix, which was closed in the same way. The peritoneal cavity was mopped out with dry gauze sponges, the abdomen closed with through and through silk worm gut sutures, except

at the lower angle, where a large, split rubber tube with a gauze wick was introduced.

The patient was returned to bed at 9:30 a. m. with a pulse of 100 and temperature of 99. He was placed in the Fowler's position and the administration of warm normal saline solution by proctoclysis commenced at once and continued until the end of the third day. He was given strychnine sulphate, gr.  $\frac{1}{30}$ , every four hours hypodermically and codeine when necessary for pain. He was considerably nauseated, and January 6th vomited and hicoughed a great deal. Temperature at 6 a. m.,  $100\frac{4}{5}$ , pulse 120; at 6 p. m., temperature  $100\frac{3}{5}$ , pulse 110. There was free serous drainage from wound, and free action of kidneys every two or three hours.

January 7th—Hiccoughs still very troublesome but not continuous as on the preceding day. Temperature 6 a. m. 100, pulse 110; at 6 p. m., temperature  $99\frac{4}{5}$ , pulse 100. Drainage free and offensive, evidently due to colon bacillus infection.

January 8th—The patient continued to have a temperature from 99 to 100 Fahr. from the fifth until the fourteenth day. On January 19th he developed a lymphangitis in the left iliac region and involving the inguinal glands, which caused a temperature for a week ranging from 99 to 101. During the first three days the patient had received and retained 49 pints of warm saline solution by proctoclysis, but at the end of the third day the bowel became intolerant. An attempt was made to carry on rectal alimentation with normal saline solution by proctoclysis, but this was unsuccessful. The patient was first given water by the stomach on the fifth day and the bowels moved well spontaneously on the seventh day. With the exception of the lymphatic involvement he made an uneventful recovery and was discharged from the hospital on February 12th.

It is my opinion that this young man

\* Read before the Colorado State Medical Society, Estes Park, September 14-16, 1909.

owes his recovery to the two procedures—the Fowler's position and properly administered proctoclysis, in addition to the ordinary surgical treatment of intestinal perforation.

The treatment of gunshot wounds of the abdomen in civil and military practice is exactly reversed. In referring briefly to the position of military surgeons, Borden summarizes it in the statement that "It may be concluded that modern surgical methods have not as yet proved available to markedly reduce the mortality of the wounded in penetrating wounds of the abdomen received in war, but that the mortality in these cases has been lowered to some extent by the use of the small caliber rifle." In Senn's "Medical and Surgical Aspects of the Spanish-American War," the statement is made that four laparotomies for perforating wounds of the abdomen were performed in the First Division hospital, the only ones to his knowledge during the Cuban campaign. All these patients died. Senn goes on further to state that this unfavorable experience should not deter surgeons from performing the operation in individual cases in which from the course of the bullet it is reasonable to assume that the bullet has made visceral injuries which would be sure to destroy life without surgical interference.

Senn mentions in his "Intestinal Surgery," that as a result of clinical experience and experiments on the cadaver, that a bullet may pass through the abdomen in an antero-posterior direction above the umbilicus without producing visceral injuries demanding operation. But if the bullet traverses the small intestine area it is more than probable that from one to fourteen perforations will be found. According to O'Reilly as was given in Keene's Surgery, in the American Civil War every case in which the small intestine was known to have been wounded died, and further the surgeons of the Boer War all reported

themselves as convinced that an operation is justifiable only where an aseptic technique can be employed, or where the patient would unquestionably die if an operation were not performed.

In civil practice I believe that all cases of gunshot wounds of the abdomen should be operated upon at the earliest possible moment consistent with an aseptic technique, unless there is positive evidence that the abdominal cavity has not been penetrated. To sit by and wait for symptoms to develop will in nearly every instance sacrifice the patient's chance for recovery under operation, while to operate under suitable conditions adds but little to the danger of the patient even in cases where the intestine is found not perforated. The diagnostic methods by the inflation of the bowel by hydrogen gas, or other gases or liquids, are no longer approved diagnostic procedures.

Probably rigidity of the abdominal walls which tends to become more pronounced as time passes is the most important single symptom of serious intra-abdominal injury. The pulse and sensations of the patient give us no reliable information at the period when definite information is essential.

If the use of the probe can be of help in determining the question of penetration or non-penetration of the abdominal cavity, I can see no sufficient reason why it should not be used. According to the late Greig Smith, "Wherever a bullet has passed, surely a probe may follow without much increase of danger." However, the probe should not be used until the patient is on the operating table, prepared, and the surgeon ready to operate. Then, if we can gain any information by the use of the probe the patient is entitled to the benefit of it.

The median incision is preferable because it gives a better opportunity for thorough exploration of the abdominal cavity, be-



cause bullets may become deflected from the line of fire, producing injuries anywhere in this region. It is the best plan to thoroughly suture each perforation as it is found. It saves time and diminishes the manipulation of the bowels. The question of drainage comes up in these cases. The dictum of surgical teaching has been "When in doubt, drain," but now the pendulum has swung the other way, and with a number of surgeons the present position seems to be "When in doubt, don't drain." If there has been fecal extravasation we will have infection, and drainage should be used.

### *A NEW TREATMENT FOR ABDOMINAL SURGICAL SHOCK.\**

By JOHN R. HOPKINS, M. D.

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As the problem of the cause of shock now stands there are many contradictory theories.<sup>1</sup> It is best for me to state at the beginning of this paper that the case that I will report later, together with my investigations, have proven to my satisfaction that in surgical shock the peripheral vessels are contracted, and the vessels in the splanchnic area dilated, and that the vasomotor nerve mechanism is not paralyzed, but is injured sufficiently to lose its reason or function, instead of acting in its long accustomed, extremely intelligent and prompt manner, in distributing the right amount of blood to the right places at the right times, which is essential to life. There is not nearly enough blood in the body to fill all the blood vessels at once if they were all dilated. Goltz in his famous experiment showed that if a frog be suspended in the upright position and its heart exposed, a blow upon the abdomen has a two-fold action, (1) it stops the heart reflexly through the vagus; but after this effect has passed off (2) the heart beats

again but is empty and sends on no blood into the vessels, because the blow has caused dilation of the abdominal vessels and all the blood becomes stored up in them, so that none reaches the heart.

Besides the chief vasomotor centre in the medulla there are subsidiary centres in the spinal cord, and Goltz<sup>2</sup> and Ewald have shown that the ganglionic chain of the sympathetic can assume the function of the vasomotor centres. When the centres or nervous trunks of the vasomotor nerves are irritated the vessels contract.<sup>3</sup> 'Section of the splanchnic nerves causes an immediate and sharp fall of blood pressure. The intestinal arteries, veins and portal vein are dilated and over-filled with blood. As a necessary consequence of their immense capacity the rest of the vascular system is underfilled and the blood pressure falls accordingly. Stimulation of the peripheral end of the splanchnic nerves causes a great rise of blood pressure owing to the constriction of the vessels in the intestinal area. This shows that the vasomotor fibres in the splanchnic nerves are mainly of the constrictor type, also that the splanchnic area serves to a great extent as a regulator of blood pressure.

Mall<sup>4</sup> has shown that the splanchnic nerves contain vaso-constrictor fibres for the portal vein and, Ludwig and Lander Brunton have shown that the liver in the living is much like a sponge, i e., can accommodate much blood. 'Almost all the cells of the solar plexus are included in the course of the fibres of the splanchnic nerves. (Landois.) Elevation of temperature, also fever, causes irritation of the splanchnic nerves. (Landois.)

One of the principal functions of the vasomotor nerve mechanism is the proper distributing of the blood in order to preserve the normal temperature of the body. Eighty per cent. of the heat expenditure of the body is through the skin. So when for any reason more than the normal heat

\* Read before the Colorado State Medical Society, Estes Park, September 14-16, 1909.

or temperature occurs in the body it is a function of the vasomotor nerve mechanism to at once correct it, but it does not always do it. The elevation of temperature causes irritation of the splanchnic nerves, sympathetic ganglia and vasomotor centres so that orders are usually sent at once to correct the situation; the heart beats faster and peripheral vessels dilate; thus more blood is gotten to the surface to radiate and evaporate heat.

This treatment which I advocate is especially suitable for shock during the few hours or days following an abdominal operation, when the patient is not under an anesthetic, although it is probably beneficial when the patient is anesthetized, but not to so great a degree. It is as follows: Take out two skin sutures as near the umbilicus as the wound will permit, then pry apart the continuous sutures in the fascia and peritoneum. You can now see if hemorrhage is present. This procedure is not difficult nor very painful; because when patients are in shock they are more or less insensible to the causes of ordinary pain. See that a nurse has ready very hot and cold normal salt solution, reservoir with 4 feet of rubber tubing, together with a glass tube or cannula 6 to 8 inches long. Both rubber and glass tubes should have a diameter of  $\frac{1}{4}$  to  $\frac{1}{2}$  inch. Have a quart of saline solution at temperature 112° Fahr. in reservoir which should hang three feet higher than abdomen. Now have wound held open so that you can see omentum or intestines, also see that the tube and the cannula are now full of the hot solution, then insert the long cannula beneath the omentum, if possible, pushing it upward so that your glass tube penetrates to the posterior peritoneum up behind the transverse mesocolon to the neighborhood of the posterior wall of the stomach, getting as near to the solar plexus as possible. The solution, still at 112° Fahr., is

now allowed to run in as rapidly as it will. Probably a pint will fill the abdomen and be enough. This will take only five or six seconds. Now during the first two or three seconds of this time the patient feels little or no pain; only feels that the hot solution is permeating among the intestines: but the remaining two or three seconds are different—the pain is very severe, for then the splanchnic nerves, the solar and hypogastric plexuses are being strongly irritated by the heat and pressure of the hot salt solution. They are well known to be very sensitive. As the patient is not under an anesthetic the reflexes are not depressed by it. Now the irritation of the splanchnic nerves and sympathetic ganglia produced by the heat and pressure at once cause contraction of the intestinal arteries, veins and portal vein and thus a marked rise in blood pressure, a reaction, is produced by the sudden pressure of this hot solution on this great and important part of the vasomotor nerve mechanism, and is a sudden reversal of the phenomena of surgical shock. The radial pulse returns or its pressure is markedly increased. The glass tube is taken out quickly; a small piece of gauze laid over the wound and a strip of adhesive plaster applied, then a tight abdominal binder to sustain the pressure. If this treatment should not succeed I strongly advise repeating it in one or two hours. In addition to the above treatment I advise hot salt solution per rectum, ten ounces every two hours, principally on account of getting the heat near the hypogastric plexus and splanchnic nerves; also full glasses of hot water to drink for similar purposes; otherwise do not disturb the patient with hypodermics or by even raising the foot of the bed—just keep her warm and as comfortable and peaceful as possible.

During the last two years before I conceived this treatment of abdominal surgi-

cal shock I had no faith in any of the drug treatments unless perhaps atropine for the profuse sweating. I had faith only in salt solution under the breast or per rectum by the drop method, or filling the abdomen at the end of abdominal operations and heat to the external surface of the body, together with physiological rest, i. e., mental and physical repose.

I wish to state some more physiology to show you that this treatment is more nearly directed at the real cause of surgical shock than the ordinary methods of giving salt solution which I had had most faith in heretofore. It is generally accepted that by virtue of the amazing power of accommodation possessed by the vascular system as controlled by the vasomotor and cardiac nerves, that the total quantity of blood may be greatly diminished or greatly increased without endangering life, or even causing more than a transient alteration in the arterial pressure. It is not until at least a quarter of the blood has been withdrawn that there is any notable effect on the pressure, for the loss is quickly compensated by a constriction of the smaller arteries and the activity of the heart. An animal may recover after losing considerably more than half its blood. Conversely, the volume of the circulating liquid may be doubled by the injection of blood or normal salt solution without causing death, and increased by 50% without any marked increase in the pressure. This excess is promptly stowed away in the dilated vessels, especially those of the splanchnic area: the water passes rapidly into the lymph and is then more gradually eliminated by the kidneys. These known facts when considered show plainly, I believe, that the putting of more liquid into the circulation as normal salt solution by any of the customary routes is not aimed at the real cause of shock. It is of little value as compared with the heat or heat and pressure stimulation of the splanchnic nerves, which pro-

duces constriction of the abdominal arteries, veins and portal vein. Also it is to be remembered that the heat applied to these abdominal sympathetic nerve structures on account of the part they play in the regulation of the body temperature produce a dilatation of the peripheral vessels, thus relieving the resistance to the heart and also making the heart beat faster and stronger to get the blood or heat to the surface. If it were not for the heat given off, the body would be heated to the boiling point in thirty-six hours.

I will now give you the history of the case on which I finally used this treatment after I had almost abandoned hope.

Mrs. W., age 53, entered St. Anthony's Hospital November 29th, operation, abdominal hysteromyomectomy, December 1, 1908. Tumor measured  $6\frac{1}{2}$  by  $8\frac{1}{2}$  by 7 inches. Took chloroform well. Operation lasted forty minutes. Sigmoid flexure was adherent to tumor to the extent of 4 or 5 inches. Tumor was well supplied with enlarged veins and arteries, however she lost very little blood during the operation. Raw surfaces were all covered with peritoneum. Intestines were not allowed outside of abdominal cavity and were kept covered with hot salt solution pads. Patient was in good condition during all the time of the operation and was put to bed in the same condition at 11 a. m. with pulse 80, full and of normal strength. About 20 minutes later when she began to become conscious she received a hypodermic of morphine,  $\frac{1}{4}$  gr., and atropine,  $\frac{1}{150}$  gr. She rested quietly with good pulse, warm extremities, very little nausea and not much pain until 3:45 p. m., when the nurse noticed the pulse getting weaker, at 4 p. m. it was 100 and very weak. When I arrived at 5 p. m. the pulse was 116, very weak and the patient bathed in cold perspiration; the temperature was  $97^{\circ}$ . This patient had had none of the ordinary causes of shock, e. g., loss of blood, prolonged opera-

tion, handling or exposure of intestines, but she had a large uterine fibroid removed causing more or less negative pressure in the abdominal cavity, and she had been subject to nervous weak spells for years. I had been exceptionally particular about keeping the patient's legs warm after the operation, and ordered the morphine and atropine, at the same time remarking to the nurse that I thought it beneficial to prevent shock as well as making the patient more comfortable. Notwithstanding the warmth and morphine she passed into the condition of shock.

It was very difficult in this case to differentiate between shock and hemorrhage. The foot of the bed was elevated about 16 inches. Eight ounces of hot black coffee was given by rectum every four hours, alternating it with 8 ounces of salt solution. Digitaline,  $\frac{1}{100}$  gr., was given hypodermically every four hours, and the extremities were kept as warm as possible. Some fear that the condition might have been due to hemorrhage deterred me from giving the salt solution intravenously or subcutaneously.

I had to leave the hospital at 8:30 p. m., at which time her pulse was more faint, scarcely perceptible, the rate was 124, and the respirations were more rapid and distressing. The patient felt very faint and asked for heart stimulants; she continued to fail and by midnight the pulse could only occasionally be felt at the wrist. Dr. Treadway, the house surgeon, was called to see her at 2 a. m. and again at 4 a. m., and could not find any pulse in either wrist at either time. The nurses could not find any pulse at 6 or 7 a. m., and the face was blanched and the respirations entirely costal and very distressing. She was vomiting some green bile. The nurses and house doctors were looking for her to die any time after midnight. I arrived at the hospital at 8 a. m. and found her merely alive; no pulse could be felt

and breathing was very difficult and rapid. Her face and lips were blanched. The foot of the bed was still on chairs. I had almost given up hope. I ordered a pint of normal salt solution subcutaneously under the breast and at once took two silkworm gut sutures out of abdominal wound and with sharp-pointed scissors and probe pried open the fascia and peritoneum and could see the glistening omentum and intestines showing no hemorrhage or peritonitis. I at once with sterilized glass tube of  $\frac{1}{8}$  inch diameter, inserted into the abdominal cavity to the distance of four or five inches up behind the omentum and transverse colon, allowed one pint of hot normal salt solution to run in rapidly (time about six seconds). She did not have much pain during the first few seconds but had a great deal during the last few. The abdominal cavity now seemed full, so the glass tube was removed quickly and no solution allowed to run out. A narrow strip of gauze and adhesive plaster was applied. I quickly felt the wrist and found a distinct regular pulse of full strength, after an absence of the radial pulse for seven or eight hours, but the radial artery had only one-third normal caliber. The pulse did not disappear or weaken again but the radial arteries gradually increased in caliber all day and at 5 p. m. were of normal size. The abdominal binder was kept tight all day. The salt solution under the breast was apparently not absorbed until after the pint of hot salt solution was put in the abdomen nor until after the pulse returned. The return of the pulse was instantaneous or must have been within one or two minutes of the shock and pressure of the hot solution run into the abdomen. The foot of bed was put down on a level just before the salt solution was put under the breast and the hot solution in the abdomen, showing that elevation of the foot of the bed was probably of little or no value.

Lawson Tait in 1887 advocated the intro-

duction of large quantities of sterile water into the peritoneal cavity before closing the abdomen while the patient was still under the anesthetic. This has been done since that time by many surgeons. Crile states that this method is equivalent to introducing saline solution by subcutaneous infusion. Crile also states that this is a good thing to do at the end of an abdominal operation which is attended by profound shock. But this putting salt solution into the abdominal cavity when the patient is under the anesthetic, the reflexes being depressed, is an entirely different matter from the treatment I recommend. Nowhere can I find in the literature any suggestion or intimation of this treatment for surgical shock. Although I have as yet only tested it on one case. The reaction was so marked, so immediate and permanent and the best and latest knowledge of the physiology of the vasomotor nerve mechanism, together with the clinical picture of the case I reported convince me that this treatment is more rational than any yet advocated. The surgeon must see, however, that every detail of the treatment is carried out accurately and recovery not prevented by too many hypodermics.

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#### DISCUSSION.

Dr. H. M. Cohen: Dr. Hopkins has certainly presented to this section a most striking and somewhat novel treatment of shock. I regret exceedingly that he has but one case to report, because we all realize that definite conclusions cannot be drawn from one case alone. In

opening the discussion of this subject, it might be well to briefly review some of the theories in regard to shock. Boile believes cardiac exhaustion is the principal factor. Howell thinks both cardiac and vascular factors take part. Meltzer is quoted as summing up the subject by claiming it is due to inhibition of all the functions of the body. Kinnaman argues for a disturbance of the thermogenic function. Jaboulay says it is due to the formation of an irreducible oxyhemoglobin. Valle contends an increase of the specific gravity of the blood is responsible. Henderson, who has been doing some very good work in physiology at Yale, maintains that a diminution of the carbon dioxide content of the blood is the prime factor, and this condition he terms acapnia. Bainbridge and Parkinson argue for a loss of chromatin tissue following trauma. We are all familiar with the theory put forward by Crile and his followers, that shock is due to exhaustion of the vaso-motor center, and this I think is the view, at present most generally held. Historically it may be interesting to note that in 1864 W. W. Keen, S. Weir Mitchell and G. R. Morehouse put forth practically this same theory. Seelig and Lyon, in an excellent resume of this subject, conclude from their experiments that this theory as held by Crile must be revised.

If the result reported by Dr. Hopkins in his paper can be confirmed by similar cases, then, in my opinion, this will further tend to overthrow the theory that Crile now holds regarding the exhaustion of the vasomotor center as the cause of shock, because if the vasomotor center is exhausted, and it undoubtedly would have been in a case of such severe shock as that reported by Dr. Hopkins, then no stimulation could further excite that center to action.

I cannot quite agree with Dr. Hopkins in his statements concerning blood pressure and saline. Crile has shown that only a definite amount of saline can be properly taken care of by the vessels, and that any excess accumulates in the lumen of the stomach, intestines, broncho-pulmonary tract and in the pleural and peritoneal cavities. Experimentally he has produced death in dogs by introducing an excess of saline, the solution causing death by mechanically preventing contractions of the diaphragm.

In conclusion, since we have no satisfactory treatment of shock, the measure advocated by Dr. Hopkins is most certainly worthy of trial, especially in those desperate conditions of shock in which nothing else avails.

Dr. C. S. Elder: All of us might applaud the regret of Dr. Cohen that more instances in which this treatment was applied are not ready for report, but we cannot dispose of the proposal of Dr. Hopkins with the intimation that what has happened in this single case may not occur again. Our distrust of inference from a single experience is not always justifiable. A great deal of our knowledge is derived from observation of the processes of nature. Phenomena as ordered by nature seldom come to us so varied as to enable us, at one experi-

ence, to discover the necessary relation of the events involved. On the other hand, experiment makes it possible for us to produce the precise variation of which we are in want for the demonstration of a principle or the discovery of a covert law.

Dr. Hopkins' proposal for the treatment of shock rests upon an experiment, which, if the details be correctly given, leads to results of the most convincing character. Doubt can question only the condition of Dr. Hopkins' patient before this treatment and afterward. We are hardly free to hold any other opinion than that any change immediately following the treatment was caused by it. But our conclusion from this case must be brought into accord with the results in other cases of a similar kind, if there be any such. It happens that we are quite familiar with the effect of salt solution introduced into the abdomen. We have not found, however, that the pulse having been long impalpable at the wrist immediately reappears in normal volume.

Whatever may be the conditions present in shock, we are in no doubt as to the cause of it. We know that it is caused by the irritation of afferent nerve endings. It is more or less intense as the region of trauma is more or less generously supplied with sensory nerves. A plain inference from this evident causation of shock is that our patients should be kept as quiet as possible. The proposed treatment, which requires a partial reopening of the abdominal incision, is certainly conducive to neither physical nor mental quietude.

Another objection to this plan which appears obvious is that it opposes our efforts at security in closure of the abdominal wound.

Dr. H. G. Wetherill: Ever since the history of medicine has been written it has been the practice to criticize and oppose the introduction of new measures and new theories. Perhaps this plan has its advantages, but it also has its disadvantages, because it makes us withhold our approval and a trial of measures which might have a very valuable place in our armamentarium. I could offer many theoretical objections to the plan which Dr. Hopkins has suggested, and yet it seems to me that it has certain commendable features.

Purely as a facetious aside, perhaps you will permit me to remind you of an objection which was made to the steam railway when it was first introduced into England, which was that it would scare the cows and turn the milk sour. Now, later experience with the steam railway has not shown that this objection was a valid one!

While there may be objections to this method, and while it may not ultimately stand analysis, I think it has sufficient value to make it worthy of respectful consideration. It is not a new principle. As Dr. Elder has pointed out to you, it is a principle which has long been employed during and immediately after abdominal operations. Taking out one or two stitches and putting the solution in afterwards when the patient has gone into collapse may be an entirely new feature. However, I think

this would have to be demonstrated. Personally I should have a good deal of doubt as to the wisdom of putting the salt solution into the abdominal cavity rapidly as the author advises. I should think if it were going to be practical at all and have a definite use it would be advantageous to introduce the solution slowly, so that there would not be the sudden pain and the sudden change which Dr. Hopkins has called our attention to.

The practice Dr. Hopkins has suggested has one feature which seems good to me. It is at times almost impossible to determine whether the condition of a patient as we see it is due to shock or whether it is due to hemorrhage. Now this proceeding has the same advantage that a posterior vaginal incision has in determining the difference between extrauterine pregnancy and some other form of pelvic trouble. When you go through the vaginal vault you get blood or you do not get blood, and you can know at once whether your patient is suffering from hemorrhage and extrauterine pregnancy or not. It is the same with the expedient he has suggested. One or two stitches removed at the top or bottom of the incision can settle that problem for you, and it is a very important problem to settle. I can see no objection to the removal of one or two stitches under these circumstances. The slight risk of hernia which this favors is not a factor under the circumstances. With a patient in extremis, pulseless and with a probability of losing her life, the risk of hernia should not be given one moment's consideration.

Dr. T. A. Stoddard: The gentleman who just took his seat (Dr. Wetherill) said it was the privilege of the doctor to oppose and criticize, and while he failed to say that it was also his privilege to commend, he went on and did commend. It is our privilege sometimes to commend such papers as we have listened to from Dr. Hopkins, not perhaps so much for the matter but for the thought. The matter of shock has been in the past a greater bugbear to the surgeon than it is at the present time. To the young surgeon it is still perhaps almost as great as it was to some of us older ones when we were young.

The exact cause of shock I do not think cuts as much figure as we would try to make ourselves and our brother physicians believe. The fact remains that we do occasionally have shock, and that it is our duty to meet that condition and overcome it if possible, and no matter how it may be overcome as long as we do overcome it, that is the question at issue. As Dr. Wetherill has said, the opening of the abdomen a few hours after operation, after the abdomen has been closed, when we find a patient in extremis, is certainly commendable, and I rather apprehend that our friend Dr. Elder would, if he had a patient in that condition, not hesitate one moment to take out the stitches and find out whether the collapse of the patient was due to true shock or to loss of blood. It would be the only way to find out, and he would certainly take means to find out.

The point raised by Dr. Wetherill of allowing the water to run into the abdomen rapidly or slowly I think is a question worthy of consideration. The removal from the abdominal cavity of a large neoplasm, certainly does produce an amount of shock not commensurate with the amount of injury done. For instance, a patient may have a large ovarian cyst, and, by tapping that and removing the fluid rapidly with a large trocar we sometimes get very severe shock. Now, that shock is not caused by any injury to the splanchnic system; it is caused evidently by a change in some mysterious manner, I know not what, and care less—it is caused by the change of intra-abdominal pressure; the rapid removal of the fluid of that cyst has caused the change in the intra-abdominal pressure, and this has its influence on the abdominal vessels in some way probably through the splanchnic system, through the vasomotor system. Just how we do not know. No person knows that. But I think this may account for shock in those cases.

The fact that the case related by the doctor had profuse perspiration would go to show, I think, that the surface vessels in this case at least were dilated in a measure, and, of course, atropin was good treatment there. The putting of fluid in the abdominal cavity is a treatment which we all use.

The rapidity of operative procedure is a matter which we should all pay more attention to; the man who attempts operative procedure which ought to take twenty minutes, and takes two or three or four hours is very closely allied to the man who without reason takes life in his hands and destroys it.

Dr. C. E. Tennant: I think some of the suggestions which Dr. Hopkins has made here may be of value as compared with other methods of treatment which we have in shock. It is fortunate, however, that we do not have many cases such as Dr. Stoddard mentioned a few moments ago. The technique, the selection of the anesthetic and its administration all go to increase or lessen the dangers from shock. As the result of more careful attention to those matters we have few cases of shock today as compared with former years.

Dr. Hopkins' position is quite contrary to that of Dr. Crile in his work on this subject. Dr. Crile, as Dr. Hopkins said, takes absolutely the opposite position, but whichever may prove correct, shock is no doubt due to a change in the blood pressure, possibly reduced blood pressure, and we may have this from local nervous conditions. For its relief Crile has adopted several measures, one the method in which the patient is placed in a pneumatic jacket, the blood pressure being increased peripherally as rapidly as possible, and Crile maintains that the effort to keep the blood pressure to above forty millimeters in the coronary artery is sufficient to keep the heart at work and thereby maintain the circulation.

There was a reference made here to the use of the salt solution in experimental work by Dr. Crile. I had the pleasure of seeing this

experimental work done by Dr. Crile some years ago. I saw there several dogs that were absolutely drowned by the use of this salt solution intravenously; in a short time the lacteals of the intestines took up this fluid; the intestines themselves became boggy, and finally the abdominal cavity was flooded with water, the downward excursion of the diaphragm being obstructed so that the animal was practically water-logged and died with asphyxia. This was accomplished in a very short time with the intravenous injection of the salt solution. There is, therefore, an element of danger in the use of salt solution.

Again, when we undertake to use subcutaneous injections of salt solution, it is almost impossible for the circulation to take it up under these conditions of shock, and it often proves a useless practice. Such at least has been my experience, for, although the patients may survive the shock, we may have a mass of salt solution and pus to remove later on.

Dr. Wetherill made a point here with relation to the use of this fluid in the abdominal cavity which is worthy of consideration. It occurs to me, however, that there is some advantage in producing a profound impression upon the nervous system, and in the case reported by Dr. Hopkins there was a negative pressure induced in the abdomen by the removal of this mass. The negative pressure may be compensated for by the fluid for the time being. But excluding that factor, the profound impression made upon the nerve center (which we know is of vital importance to the maintaining of blood pressure), seems to me to be worthy of consideration, and the large quantity of salt solution necessary to establish a definite and permanent intensity of heat. A small quantity of water introduced slowly would not give the liberation of heat which the quantity used by Dr. Hopkins in this case (I think a pint) would release in the abdominal cavity. Again, pain is a good antidote for these conditions of shock. This last may be another feature of his treatment that may be of advantage. This certainly appeals to me as a method worthy of experimentation at least on the dog.

Dr. F. H. McNaught: I was unfortunate in not hearing Dr. Hopkins' entire paper, but it seems to me that we are drifting away from the subject of the paper and discussing shock in general.

I have had a fair number of cases of abdominal shock during the last ten years, and have made some observations in a personal way regarding the treatment. I found in abdominal shock where I gave the subcutaneous salt solution, no results were obtained, from the simple fact that the absorbents were all held in abeyance, and the salt solution was not absorbed, it remained under the skin. I also found in filling the abdominal cavity that the same condition prevailed in abdominal shock following operations, and that if the abdomen was filled with salt solution and examined half an hour or an hour afterwards, especially if the case did not rally from the shock, that fluid was still in the abdominal cavity, show-

ing that the absorbents were held in abeyance and no result could come from the absorption of that fluid. This has been a personal observation, so that today I only resort to intravenous salt solution in abdominal cases, as well as cases outside of the abdomen.

I notice that Crile claims that the function of the organs are held in abeyance, as well as the absorbents, and if this is a fact you get no results other than from the heat that may be conveyed in the water. Crile made the statement that the heat given to the body, either in the abdominal or intravenous use of the salt solution, was the cause for the relief of the shock. I am not sure but this is correct, if so the intravenous use of the hot salt solution must have a more direct action upon the heart than can the abdominal introduction of the solution. It is my experience that I only get positive results, either in abdominal cases or otherwise, through the intravenous use of the salt solution.

Dr. H. G. Wetherill: I hesitate very much to say a word, but there is one important differentiation which ought to be made right here, before we go any further, in my judgment. Dr. McNaught as a railroad surgeon is talking about shock as we have always known shock in the past. Dr. Hopkins, in my judgment, is talking about shock which is not shock at all, but in nine cases out of ten, the result of too much anesthetic, too long an operation, too much hypodermic stimulation by an inefficient or injudicious house officer, and I believe as this discussion goes on that differentiation ought to be made.

Dr. Baldwin, U. S. N.: I do not feel that I have anything to add to this question while so many able men are here who are in active practice today. My work, of course, is that of a surgeon in the navy, where our number of operations is limited. We are more in the nature of emergency men. We rise to the occasion as best we can. I can only unite with the observations made by most of the gentlemen, that we do not encounter the shock in our work as we used to do, with our present improved methods, and our rapidity, and it is very rarely, when we are on hand, that we have cases in which we have to resort to these extreme methods, and consequently I do not have the experience which you gentlemen have had in speaking authoritatively of the results. Therefore I feel that I have nothing of importance to say, but I think Dr. Wetherill's remark of understanding what we are talking about, the nature of the shock, how produced, is the a, b, c of all our other inferences.

I thank you very much for the courtesy extended to me.

#### DISCUSSION CLOSED.

Dr. J. R. Hopkins: I wish to say that I see that my cases do not get too many hypodermics. That is a very strong rule of mine. I mention it because of Dr. Wetherill's remarks. The case which I reported got no hypodermics, except as I stated in the paper. As stated in

the paper, my theory of shock, after investigation and experience, is that the vasomotor nerve mechanism is not attending to its business. That is, I do not believe that it is absolutely paralyzed, as my suggestion that the peripheral vessels are not dilated would indicate.

The object of my treatment is to wake up the vasomotor nerve mechanism and make it attend to its business, and that is the reason that the hot water should be put in rapidly, in order to wake it up. The only object of the treatment is to spur it to activity, and not the absorption of the salt solution. As shown in my paper, the splanchnic nerves, the solar plexus and the hypogastric plexus, which is sympathetic, play the most important part in the vasomotor nerve mechanism.

About opening the abdominal wound, you all know, or all surgeons at any rate should know, that the fascia in the abdominal wall is the structure that prevents the hernia. This is not interfered with in the way I do this, by not cutting a continuous suture in the fascia. All that is necessary is to pry apart the fascia enough to put in a glass tube and when you get through the continuous suture pulls straight again and closes the fascia just the same as it was before, and the peritoneum also. It is generally recognized that the skin and the fat have nothing to do with hernias.

Allusion was made to the perspiration; that the superficial vessels must be dilated. One of the best authorities recently said that the perspiration must be due to the relaxation of the skin and not to secretions of the glands in the skin, because the skin is not supplied with blood sufficient to make these glands secrete more, but knowing that the skin is relaxed he believes that the perspiration is due to the relaxation of the skin instead of to stimulation of the glands.

Sellg and Lyon have shown by experiments on dogs, by the use of the ophthalmoscope, that when the dog goes into shock the retinal arteries are contracted. The deeper the shock is the more contracted the retinal arteries are. Sometimes they become mere strands, so that no blood passes through them at all. In such cases patients sometimes become blind, due to the contraction of the retinal arteries, going to show that the peripheral vessels are contracted. The case which I report in my paper absolutely proves to me that the radial arteries are contracted. The pressure was suddenly brought back to normal, so that I could feel the size of the radial arteries. If it came back slowly that could not be done, but when it came back suddenly I could tell the size of the radial artery.

Be sure to attend the annual meeting of the State Medical Society. Bring your medical friends and urge non-members to join their county society and come to the State Society meeting. Colorado Springs, October 11th to 14th.



## LIFE INSURANCE EXAMINATION RECORDS.

BY CUTHBERT POWELL, M. D.,\*  
DENVER, COLORADO.

This paper deals solely with the *record* of the examination of applicants for life insurance, which is furnished the company by the medical examiner, and its purpose is to draw the attention of the members of this society to the careless, and, I may say, incompetent manner in which that record is frequently made.

By way of preface, let me state that a large part of our profession, specialists in all lines, as well as general practitioners, hold appointments as medical examiners for one or more insurance companies.

According to Dr. Brandreth Symonds, \$5,000,000 are annually paid to the medical men of this country for their services, by regular insurance companies.

There is no percentage of loss due to inability to collect the fee for this work. One hundred per cent. of the insurance examination fee is paid and paid promptly.

With these facts before you, is it not surprising that the examiner does not give more time and care to the preparation of his record?

In order to show concisely what I mean by the careless record of the examiner, I reviewed one hundred consecutive examination reports which passed through the Denver office of one of the larger insurance companies. This series of reports was made by thirty-six different examiners appointed by the company after careful investigation of their habits, professional ability and local standing in their community.

Of these one hundred examinations, fifty-four, or a little more than half, were completely and properly recorded. It was therefore necessary to write forty-six let-

ters to the examiners of this series of cases in order to obtain a sufficiently complete report upon which to base an opinion of the applicant's insurability.

These forty-six letters covered fifty-eight questions, the answers to which had been either omitted, or indefinitely answered.

I do not include in the above figures the number of follow-up letters necessitated by the examiners' failure to reply to the first request for additional information to complete his report. Approximately, however, ten per cent. of all such requests must be repeatedly made.

In fourteen of the incomplete reports of this series, the record of the family history was at fault.

In seven the questions covering the use of liquors were not definitely answered.

In three, the race of the applicant was not properly stated.

In three the urinary examination was omitted in whole or in part.

In five the weight of the applicant was the subject of correspondence.

In six the question, "Have you any bodily malformation?" was passed over.

The remaining omissions covered the greater part of the questions on the examiner's blank.

A few brief illustrations will suffice to give an idea of improperly answered questions.

Most, if not all examiner's blanks, have a column for the living and one for the dead members of the applicant's family, with spaces for the ages and state of health of the living; ages, cause of death, etc., of the dead. A frequent cause of delay and correspondence is the failure to answer some part of this question, usually to state definitely in the space provided for that purpose that there are no brothers or sisters dead when such is the case.

An examiner not long since in answer to a letter calling his attention to such an

\* Read before the Colorado State Medical Society, Estes Park, September 14-16, 1909.

omission and asking for details, replied "That if there had been any brothers or sisters dead he would have so stated, that his failure to answer the question implied that there were none dead."

The questions regarding the use of alcohols are stumbling blocks to the average examiner. It is hard sometimes to obtain definite information from the applicant covering his drinking habits. A little care and patience, however, will usually be rewarded with some answer more definite than "an occasional drink," "when he feels like it," etc., which are not acceptable, nor do they convey any idea whatever of the applicant's use of intoxicants.

The answer to the question "What is the race of the applicant?" causes a large amount of correspondence on account of the answer, "American," so often given. This answer is indefinite. American may mean a white man, Indian or negro. The *race* and not the nationality is requested.

The medical examiner's blank is prepared with a great deal of care by men who have had large experience in the selection of insurance risks. Each and every question appearing on the blank is of importance and must be properly answered if the report is to be of value to those whose duty it is to accept or reject the applicant.

It will be readily seen that such a large percentage of incomplete reports works to the disadvantage of the applicant, the examiner, the agent and the company.

The applicant is placed in a false light by the examiner's carelessness in stating facts, insurance on his life is delayed and he may be refused altogether because the examiner will not furnish such answers to questions as will enable the company to pass on his case.

The agent's commission is delayed, and possibly lost to him altogether, for the reason that the delay may cause the applicant to change his mind or permit the agent of a

rival company to persuade him to take other insurance.

The examiner makes extra work for himself, in interviewing the applicant a second time, and in extra and unnecessary correspondence.

The company is necessarily put to additional expense for postage, stationery and clerical hire in obtaining information for which it pays an examiner to furnish on his original examination. Business is lost to the company, which would be on its books but for careless examiners.

### *THE RELATION OF VACCINE THERAPY TO SURGERY.*

By BENJ. H. MATTHEWS, M. D.,\*

DENVER, COLO.

The exponents of vaccine therapy and those of surgery have small cause for jealousy since the indications for each are so decisive. And, still there is a large per cent. of cases in which both surgery and vaccine should be employed. At the present time there is a tendency on the side of each to call the other only as a last resort, often to the detriment of the patient.

As illustrative of this, on the one hand, a tubercular sinus leading to and involving a bone may be treated for a long time with vaccine, using any kind of tuberculin and supplementing autogenous vaccine of the secondary infection, inject it with bismuth paste and still if there is dead bone there, in all probability a surgeon will have to take it out before the sinus will close and stay closed. And, on the other hand this same case may have been very carefully operated upon many times before the administration of vaccine with no permanent benefit. There have been several just such cases in my experience.

In the brief time at our disposal we can hope only to touch upon the different cases in which both vaccine and surgery

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should be employed. With no attempt at arrangement either in order of frequency or importance, I will give a list of the varieties of such cases which have been under my own observation, and speak of them in order:

Tuberculous cervical glands, tuberculous sinuses, tuberculous, epididimitis, tuberculous kidney, empyema, ruptured appendix, gall bladder operation, post typhoid periostitis, progressive cellulitis, septice-mia following injury or puerperium, sup-purations following injury, compound fractures, boils, sinusitis, mastoiditis, otitis media and chronic gonorrhea.

Tuberculous cervical glands, if uncomplicated, will all yield to vaccine. There are cases reported to the contrary but in my limited experience I have never seen one which was not at least greatly improved. Two years ago I reported such a case but it responded later to the emulsion of the bovine bacillus. If the glands be broken down or of such size and location that immediate relief is necessary, then, of course, they should be operated upon. When broken down and discharging they will very often dry up and get well without operation, but if skillfully operated upon recovery is more prompt and the scar less unsightly. Just how much importance there is to be placed upon the human type and bovine type of bacillus, I am not in a position to say, but this much is certain, some cases do best on one and some on the other.

Tuberculous sinuses, often if not usually drain a diseased bone. If after a few months' treatment the sinus persists, there is almost certainly some dead bone which must be removed.

In tuberculous epididimitis, it is a question whether one should delay operation in any case. For awhile many cases respond quite promptly and satisfactorily to vaccine, some do not and the progress of the disease is so apt to involve other adja-

cent tissues that it seems scarcely worth while to run the risk. Especially so when one considers the function of the epididimus terminated early in the disease. But the tendency of the disease to later involve the other epididimus, or follow up the cord, is sufficient reason for a course of vaccine following operation.

The same is true of tuberculous kidney, changed only by the difference in the location of the organ. In my judgment, the wound heals more promptly and the patient makes a more speedy recovery if operation is preceded and followed by vaccine.

Empyemas which require operation, are so prone to be long drawn out cases, that it seems to me *every* possible effort should be made at the very start to shorten the course of the disease. I am sure we have all seen such cases which have been discharging months and even years, stop discharging, heal and the patient's general health be greatly improved by vaccination. If these extreme conditions are benefited and even cured, does it not seem reasonable that the course of every case would be shortened?

With ruptured appendicitis, gall bladder operation, or any condition where the abdominal wound is exposed, to the bacteria of the intestinal tract, there is usually a prolonged drainage. If particularly severe or prolonged, an autogenous vaccine is of the greatest assistance. Why not then in every case?

In the last year I have seen three cases of cellulitis unchecked by liberal incision, which responded promptly to autogenous vaccine. Another case unchecked by vaccine promptly stopped by liberal incision. My conclusion is not that these three were cured by vaccine and one by liberal drainage, but all were cured by the combination of the two.

Out of two dozen general sepsis conditions which I have treated, two died; one

septic for sixteen days before I was called, died that night; the other septic for twenty-one days before treatment, lived to the twenty-fourth day. The others recovered.

Suppurations, following injury and compound fractures, do not usually endanger life, but are very common. They are usually in working men, to whom time is an item. The period of repair can be greatly shortened by vaccine, usually staphylococcus. Boils often require surgery. They always yield to vaccine. Even the sloughing furunculosis of diabetes is vastly improved.

If operation in sinusitis mastoiditis and otitis media fail to relieve, vaccine is of the greatest aid to recovery and should be given to every case on the first sign of chronicity.

There are probably more remedies for chronic gonorrhoea than for any other dozen diseases combined. Irrigation with antiseptics is a waste of chemicals. Stretching or cutting strictures allows the free passage of urine. Milking the prostate and seminal vesicles is a temporary relief from the stagnated pus. Dietetics help all conditions to some extent.

The immunity produced by vaccine is only temporary and the germs harbored in pockets back of the strictures and in the seminal vesicles soon re-infect the patient. If their strictures be obliterated the vesicles carefully milked, general hygiene instituted, all at the same time with the immunity produced by vaccine, satisfactory results may be expected, but no one of these measures can be omitted. An autogenous vaccine is also usually necessary as the gonococcus is only one of the invading organisms in most cases. What has gone before may be summed up by saying; wherever vaccine is of benefit in extreme conditions it is indicated in all similar cases of a milder type.

#### DISCUSSION.

**Dr. Gerald B. Webb:** I wish first to congratulate Dr. Matthews on his excellent paper, and

to thank him for keeping before the society the importance of Wright's vaccine principles in regard to surgery. New ideas are introduced into medicine and after a hasty trial are rapidly discarded, and a period of years is taken to bring them back to their proper station. The story of the introduction of Wright's work into this country has been a curious one. The labor of all investigators was aimed at the destruction of the theory of the opsonic index. These workers chiefly used the tubercle bacillus in their opsonic experiments and from their results condemned the index. It is more than probable that in tuberculosis, opsonin may not play so important a part as it does in other diseases. The tubercle bacillus is well known to possess a high percentage of wax by which it protects itself from destruction. Even should it be opsonized and engulfed by the polymorphonuclear leucocyte it could not be digested, as this phagocyte possesses no enzyme capable of splitting the wax. All recent work in the pathology of tuberculosis has pointed to the non-granulated mononuclear cells of the blood (lymphocytes and large mononuclears) as being the phagocytes which attack the tubercle bacillus. It has also been shown by Bergel in Germany and Marie in France that these cells possess a ferment capable of digesting wax. Whether these cells need the aid of opsonin or not is not yet known. Neufeld's work has shown, and also that of Meakins in this country, that in most bacterial diseases opsonin is a very important factor. They have not followed the method of Wright's index, but by means of dilutions they have shown that opsonin is a more important protective body than even Wright had expected. The estimation of opsonin is still important and an illustration will suggest the reason: A suppurating ear refused to heal under the administration of an homologous vaccine. A study of the opsonic index indicated that the vaccine had raised it, and had created an abundance of opsonin in the blood. Lack of healing, therefore, could only be due to the fact that this opsonin did not gain access to the focus of infection. Therein lies one of the most important features in vaccine therapy and I am sorry Dr. Matthews did not touch more upon it. There are several methods by which the increased opsonin can be drawn to the focus of disease. In the case above referred to thorough irrigation with citrate of soda solution brought a complete cure in forty-eight hours. The tissues about a center of chronic suppuration become thickened and choked up with the pathological changes; citrate of soda solution, by means of its decalcifying power, enables the plasma to drain through such tissues.

Especially the nose, throat and ear specialists of Colorado are to be congratulated on the eagerness with which they have welcomed vaccine therapy, and it would seem perhaps a silent confession that they did not consider sprays and antiseptics infallible. The cure of their patients is certainly important, but even perhaps more important is the prevention of the infections which give rise to these nose, ear

and throat complaints. We have for two years past been somewhat successful in immunizing patients against colds. Allen in London has reported favorably on similar cases. It is best to prepare vaccines from the victims of colds, and then to give immunizing doses every three to six months. If this is not possible a prophylactic inoculation of a mixture of vaccines prepared from the prevailing infections is of service. The administration of vaccines by the mouth is of great service where inoculation can not be practiced, and we have successfully relieved antrum cases in this manner.

Dr. Matthews spoke of the treatment of boils, another surgical skin condition, acne, can now be remedied by the inoculation of acne bacillus vaccine. The staphylococcus being usually secondary, it is often necessary to combine vaccines of both bacteria. Vaccine therapy has come to stay, and as Dr. Matthews insists the method should be used early before the patient's machinery of immunization is worn out.

Dr. F. W. Kenney: I was very glad to hear Dr. Matthews' paper, and also the remarks of Dr. Webb. I want to speak particularly of the point which Dr. Matthews made in regard to the cleaning out of old abscesses or broken-down glandular material before or at least early in the giving of tuberculin emulsions. I recall a case which came under my care a year ago which had been injected for some time by one of the best men in that line without any appreciable change. The patient was running a high temperature, pulse very rapid, losing flesh rapidly, and with a large caseous mass in the neck, several masses, in fact, the largest being perhaps the size of a dollar. Upon examining the case I advised the family to first place the patient under the care of a surgeon, believing that it would be useless to continue the injections until she had been operated. This was done. I knew at the time that she had been given very thorough treatment by the physician who had had her in charge. The masses of glands were cleaned out and the injections begun, exactly the same treatment as she had received before, with immediate response. The temperature dropped quickly to normal in a few days, the pulse strengthened and the woman began to gain weight. The point made by Dr. Matthews impressed me, and I thought I would mention this case. The woman continued to gain in weight and do well, gaining at least fifteen pounds in the succeeding six weeks, and improved rapidly in every way. But against the advice of all who were interested in the case, the woman later went East, and, in six months, died. I firmly believe that if she had remained in Colorado and the treatment had been kept up as needed, that the woman would be alive today. I am convinced that surgical treatment is necessary in those cases in order to get the beneficial results of the serum.

Dr. W. C. Bane: I simply want to say in confirmation of what Dr. Matthews has stated, in one or two cases referred to him that I had been treating, one chronic case of sinus after mastoid operation yielded promptly under the

vaccine treatment. Another more recent case was one of acute mastoiditis and of acute otitis media, very painful, sensitive mastoid, the discharge being loaded with streptococci; a vaccine was made and used and seemed to be of service in effecting a cure. Just how much service we got from the vaccine I am unable to say. It was not necessary to do the mastoid operation, although the mastoid was very painful and ordinarily we might have expected to have done an operation.

#### DISCUSSION CLOSED.

Dr. B. H. Matthews: There seems nothing to reply, as everybody has agreed with me so far as the discussion has gone. The rest of you may or may not agree with me. I am particularly obliged to Dr. Webb for mentioning this acne bacillus. I did not see just how I could get that in on a surgical paper, and I did want to say that I have been working with it. I have had some cases wherein treatment with the staphylococcus alone was used for a long time without recovery. Since getting into communication with Flemming, in London, I obtained a media in which the acne bacillus would grow. I have had two of these cases which are entirely well. They did not get well, just got a little better, under the staphylococcus, but they cleared up under the acne bacillus vaccine. These are the only cases in which I have had time to make experiments since I have learned how to grow the germ.

### THE SIMULATION OF MASTOID DISEASE.\*

BY EDWARD W. FOX, M. D.,  
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In the following paper I shall present for your consideration a few ideas that have appealed to me, in a limited experience, upon the diagnostic difficulties which confront one in otological practice.

The diagnosis of furunculosis of the external auditory meatus is ordinarily clear and distinct.

A typical case of mastoid involvement with its history, physical signs and its corroborative symptoms is easy of solution.

There are, however, not an infrequent class of these cases which combine both typical signs of each to such a convincing degree that an error in diagnosis may readily occur. Such a diagnostic error may not only be embarrassing, but unnecessary entrance into the antrum may be serious.

\* Read before the Colorado State Medical Society, Estes Park, September 14-16, 1909.

especially in the aged.

A resumé of otological literature, which I shall briefly narrate, will give one an adequate idea of the attention which this class of cases has elicited.

Leutert (*Archives of Ohrenklinick*, vol. 43, p. 267) first called attention to the diagnostic difficulties emphasizing the character of this type of fever accompanying peri-auricular abscess not of mastoid origin. In three cases he found the fever higher and more persistent than is ordinarily the case in subperiosteal abscess. Leutert's cases were pus collections secondary to furunculosis.

G. Connal (*British Med. Journal*, May 25, 1901, p. 1264) reported two cases with photographic illustrations showing how post-auricular swelling simulating mastoid periostitis can be caused by furuncles and disappear after their incision.

In a recent issue of the *Laryngoscope*, Gradle reports a number of interesting cases.

The following cases will illustrate: W. R. B., age 60. For the past four weeks has suffered with pain in the right ear. As long as he can remember the hearing of the right ear has been impaired, with a periodical suppurative discharge. At the present time four weeks after the inception of the trouble the pain has become quite severe and constant and especially worse at night. Temperature 101–102° F., pulse 96. The auricle was pushed forward and stood at right angles, obliterating the post-auricular groove. The swelling extended upward and above the auricle and forward, closing the right eye. There was a dark bluish discoloration extending over the above area. Palpation elicited marked tenderness over mastoid region. Examination of the external auditory meatus disclosed a swelling of the canal situated at the junction of the cartilaginous and osseous portion of the canal, obliterating any ocular inspection of the drum membrane.

Upon palpation of the canal some sensitiveness was elicited. A diagnosis of furunculosis secondary to a suppurative middle ear discharge was made. The canal was incised along the posterior superior wall. No pus was obtained. The ear was packed with a 5% solution of carbolic acid and glycerine. The following day there was a profuse suppurative discharge from the canal. Pressure over the mastoid, temporal, frontal and supraorbital regions produced a profuse flow of pus. Recovery uneventful.

Case 2: B. M. D., age 50. Referred by Dr. Ben Beshoar. Has suffered from earache for the past week. Pain worse at night. Examination—Canal reddened and very sensitive to touch. Drum membrane reddened. Palpation over mastoid region very painful. Temperature 100° F., pulse 105. Diagnosis, furunculosis.

In case 1, the previous history of middle-ear disease with an occasional suppurative discharge, the severe pain especially worse at night, the high fever, the marked tenderness in the region of the mastoid, the œdema over the mastoid tip were very suggestive of subperiosteal abscess of mastoid origin. In case 2 the appearance of the drum membrane, the sensitiveness over the osseous portion of the canal, the tenderness upon palpation of the mastoid tip, the pain worse at night point strongly to mastoiditis, yet both cases cleared up under treatment applicable to furunculosis.

While there is no arbitrary line between the signs of furunculosis and mastoiditis, there are a number of factors which the surgeon should give the greatest of consideration before arriving at anything conclusive. In furunculosis the membranous portion of the external auditory meatus, consisting as it does of numerous glands which become infected either by mechanical violence, middle-ear discharges and constitutional diathesis, give rise to swelling and tenderness which is located in the vestibular portion, in contra-distinction to the

swelling in mastoiditis, which is located in the bony portion of canal. External manipulation will elicit tenderness of the mastoid region in both mastoiditis and furunculosis, but in the former we recognize pathological tenderness and in the latter, physiological.

The differentiation of tenderness need never become confused if proper manipulation is effected. In the determination of mastoid tenderness care must be exercised to avoid touching the auricle. In many patients, especially women and children, there is often present a hypersensitive condition of the mastoid, but this is vastly different from the tenderness resultant upon mastoiditis. Pain in mastoiditis is deep-seated and excruciating, while in furunculosis it is more superficial and aching in character.

Furunculosis has impressed me as being more frequent in those past middle life than in the young, and in fact especially common between the ages of 40 and 60.

Recently a case, female, age 65, came under my observation. She had been complaining of trouble in the right ear for the past three weeks. An examination disclosed a swelling of the membranous portion of the canal, exquisitely tender to palpation. No pain over mastoid. Temperature  $99\frac{1}{2}$ , pulse 80. There was considerable restlessness and inaptitude. The usual palliative measures were administered with no relief. An incision was made along the posterior wall with a resultant profuse flow of pus. The discharge continued for several days, when she left for her home in the mountains. She continued well for about five days when slight pain again re-occurred. She lapsed into unconsciousness and died. As far as I could ascertain from the attending physician there were no symptoms of meningitis. No autopsy having been made the cause of death was unknown.

Conclusions—Furunculosis and mastoiditis present many points in common. Mas-

toiditis, we distinguish by its greater severity of symptoms.

Palpation may elicit tenderness of mastoid region in both, but by proper manipulation it is easily distinguishable.

#### DISCUSSION.

Dr. Edward Jackson: I think the mistake more frequently made is to overlook mastoid disease than to mistake furunculosis for mastoid disease. I have not done any ear work for several years, but I recall one case of mastoiditis in a young child in which there was very great uncertainty until the operation was done whether it was not a case of furunculosis. The child was, as I recollect, two years of age, without many of the usual points of history which would point to a mastoid disease. Still, it is the unusual cases that always catch us napping and this is a valuable paper from that point of view.

#### INDICAN IN THE URINE

BY M. KLEINER, M. D. AND ISRAEL S. KLEINER, PH. D.  
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The advent of pathological and physiological chemistry into the domain of clinical medicine is demonstrating the practical value that is derived from these studies from an etiologic, diagnostic and therapeutic viewpoint. As a type of the problems involved, the one under consideration has received considerable study, and sufficient progress has been made to upset many dogmatic statements of medical text-books and former clinical applications. The custom of authors in medicine of accepting, without sufficient proof, the opinions of earlier writers has led to much confusion. As an instance we note one author<sup>1</sup> who states that a milk diet leads to an increased indicanuria, while another<sup>2</sup> contends that this is decreased, but neither offers evidence for his views.

Let us, therefore, first study the present status of opinion concerning indican in the urine and, if possible, determine what clinical applications are justifiable.

Indican arises solely from the tryptophan group in the protein molecule. Tryptophan is a normal product of pancreatic

digestion: it is absorbed and takes a part in normal protein metabolism. Under the influence of certain bacteria, however, indole—among other things—may be formed from this tryptophan group and other substances from other normal digestive products. Indole is simply *one* product of putrefaction. If this putrefaction occurs in the intestine, indole may be absorbed, transported to the liver, and there converted into indican, which is excreted by the kidneys. As a proof of this, if tryptophan is fed or injected subcutaneously, there is no increase in urinary indican, whereas, injection into the cecum leads to the formation of indican through the activity of the intestinal bacteria. <sup>3</sup>Indican has received so much attention because it is that product of putrefaction which can be detected most easily in the urine, and hence has been considered a convenient index of intestinal putrefaction. There is no reason, however, for believing that putrefaction may not occur elsewhere. Gangrene, putrid malignant growths, putrid pus, et cetera, are possibilities to be considered, and although not much work has been done along this line, several authors 'consider such a source of indican quite probable.

Let us grant then that indole is formed in putrefaction. Is there evidence to show that this, or any other substances arising simultaneously, are toxic? Herter<sup>5</sup> reported that indole administered to men in a dosage of from 0.025 to 2.0 grams produced frontal headaches, irritability, insomnia and confusion, and that the continual absorption of enough indole to give a strong reaction in the urine is sufficient to cause neurasthenic symptoms. Animal experiments with indole and skatole have been in general negative,<sup>6</sup> although Howland and Richards<sup>7</sup> have found that animals poisoned with potassium cyanide were extremely sensitive to phenol and indole, the symptoms resembling certain

forms of insanity. These facts would tend to indicate that the products of putrefaction are not extremely toxic, unless the body is in a state of lowered resistance.

Clinically, the presence of indican in the urine may be accepted as a partial index of putrefaction, probably intestinal. It must be remembered, however, that the absence of indican does not absolutely preclude the possibility of enteric putrefaction since it is conceivable that indole may be formed, but for various reasons not absorbed in sufficient quantities for detection. It is most commonly associated with chronic intestinal indigestion, accompanied by either diarrhoea or constipation. Uncomplicated constipation does not lead to indicanuria according to our own experience, as well as that of others.<sup>8</sup>

C. E. Simon,<sup>8</sup> holds that the routine examination for indican is as important as that for albumin and sugar. According to his personal experience, it is an exponent of the acidity of the gastric juice and the motor power of the stomach. In anachlorhydria or hypochlorhydria, the reaction is increased, while in gastric carcinoma, the amount is exceeded only by one other disease, namely *ileus*. The same author notes an apparent incongruity in gastric ulcer with hyperacidity where indican is eliminated in increased quantities. This is ascribed to the muscular atony accompanying the cases in which this occurred, but is it not probable that cell disintegration, or abnormal metabolism in the ulcer is a contributory factor?

According to Daland<sup>9</sup> absence of indicanuria almost excludes a diagnosis of peritonitis. In this disease as well as in empyema and gangrenous processes, it is a grave prognostic sign. In intestinal obstruction the presence of a marked indican reaction points to the small intestine as the seat of the trouble, as only after prolonged ileus of the large intestine is the reaction obtainable.<sup>10</sup> In urticaria and other skin



diseases<sup>11</sup> and in epilepsy at the time of the seizure<sup>12</sup> indican in abnormal amount is invariably demonstrable.

Myers,<sup>13</sup> as a result of careful analyses in acute depressive psychoses, states that, "at the present time the analytical data are insufficient to ascribe definitely certain nervous or other disorders to an auto-intoxication." In none of the nine cases studied was an abnormally large amount of indican excreted, and hence, indole itself was undoubtedly not the cause of the mental disturbance.

Considering the limited toxicity of indole, as previously stated, this conclusion seems reasonable and suggests the presence of other functional or pathological conditions to account for the nervous symptoms attributed to indole.

We have repeatedly demonstrated the presence of relatively large quantities of indican in the urine of apparently normal individuals, and it would be superfluous here to call attention to the many diseases during the course of which it frequently occurs.

Too much stress has been placed on the symptomatology of indicanuria, and too little upon the abnormal conditions, deficiency in the protective functions within the body, or inadequate elimination that antedate or coincide with its appearance.

It is true that there is considerable experimental work to be done in laboratory and clinic to ascertain a definite applicability of indicanuria to practical medicine, but what has been accomplished does not warrant us to attribute the etiology of so many diseases to autotoxemia.

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#### AN UNUSUAL CASE OF LEAD POISONING.

EDW. W. LAZELL.

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On April 1, 1910, Mr. Y. consulted me because of his difficulty in walking, which had come on in the last month or six weeks.

Examination of the patient showed foot drop on both sides, more pronounced on the right, due to neuritis; there was a distinct blue line on the gums; the patient had digestive disturbances with some colic; other signs of disease of the nervous system were not found. The diagnosis of lead poisoning was made.

More difficulty was experienced in discovering the method of introduction. The patient was a farmer, lived on his ranch about ten miles from town; drank water from his own well which was connected with an adjacent spring; the soil was not a mineral bearing one, his wife and children drank the same water and had done so for years without showing symptoms; no lead utensils were used about the house in cooking or storing water; canned foods were rarely used; the patient did not drink beer or other alcoholic drinks, nor did he drink soda water or other bottled waters; the house was not papered; he had not taken any medicine for his diarrhoea; in short all questions looking to place the origin of the lead in his present manner of living or personal hygiene were fruitless.

The patient was then questioned as to his past history and the probable cause dis-

covered. Three months previous to the present trouble he had suffered an attack of lobar pneumonia and had been very sick. Previous to this for many years he had had occasional attacks of 'rheumatism.' With the exception of the rheumatism he had not been ill for 16 years. This sickness had been an unusually severe attack of lead poisoning which he had developed while working "in a sheet lead factory where he had been foreman. After repeated attempts to continue his work there he had been obliged to resign a very lucrative position and discontinue this kind of work. He had had "colic," so severely that the physician in charge had despaired of his life and had expected him to die. Recovery had been tedious and he had never been well since. Still in the last years he had not shown symptoms of lead poisoning and had considered his ill health due to rheumatism.

It was difficult to imagine this present foot drop to be directly due to "leading" sixteen years ago, and the history of his past sicknesses was again reviewed. Special inquiry was made of the attack of pneumonia, which condition the present trouble had so closely followed. Apparently he had had a frank attack of lobar pneumonia but said that the physician in charge thought the lung had not returned to its normal condition, and that he had taken medicine for some time after he was up and about. He was asked to describe this medicine which he did as follows: "The medicine was bitter drops, made my nose run as though I had the hay fever, and I took ten drops after each meal. The medicine formed a white scum over the neck of the bottle and turned the label brown."

The explanation of the case seemed clear. The lead deposited sixteen years before in some insoluble form in the bones, had been thrown into solution by the iodides given for an unresolved pneumonia and acute lead poisoning had resulted. The patient was given a good prognosis, saturated with sodium iodide and has made a complete recovery.

## *Progress of Medicine*

### INTERNAL MEDICINE

Edited by

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#### ANEMIA AS A SYMPTOM OF CHLOROSIS.

We have been accustomed to think of anemia as a cardinal feature of chlorosis and to credit most of the other symptoms of this disease to the reduction in the number of red blood corpuscles and hemoglobin, but recently Morawitz has contributed to the *Muenchener Medizinische Wochenschrift* No. 27, 1910, an interesting study of the cases in his clinic during the last six months, a study that has led to the conclusion that chlorosis may run its course without any or only slight reduction in the percentage of hemoglobin and that the gravity of the disease and reduction in hemoglobin by no means run parallel.

During this six months Morawitz had in his clinic 28 patients with all the other typical symptoms of chlorosis, but with hemoglobin normal, or nearly so. The greater number of these were young girls from the country where they were apparently in perfect health, but soon after entering service in the city they complained of exhaustion, lethargy, headache, dizziness, occasionally fainting and craving for acid foods. In some of these cases the hemoglobin as determined by Sahli's instrument was normal and in almost every case it was above 80%, and in one case the disease ran a grave course with hemoglobin at no time below 95%.

However, in spite of the normal percentage of hemoglobin these patients responded promptly to iron, and from this Morawitz concludes that in chlorosis iron does not act directly on the blood forming organs, out on the still unknown "root of

the disease." Certain features of chlorosis suggest a connection between the disease and the ovaries, others a similar relation to the thyroids, but it seems that these and other similar studies (Groag. *Muenchener Medizinische Wochenschrift* No. 30, 1910) force us to the conclusion that the pathology or rather pathogenesis of chlorosis is still unknown. W. J. B.

#### TRICHINOSIS.

W. Gilman Thompson (*Amer. Jour. Med. Sci.*, Aug. '10) gives a detailed study of fifty-two sporadic cases observed by himself and colleagues in the Presbyterian and Bellevue hospitals and in private practice. He is of the opinion that it is a very much more common disease than it is reputed to be. The symptoms were mainly chills, muscular pains, vomiting, severe frontal headache, prostration, fever and puffiness of the eyes. Abdominal cramps and diarrhea were not uncommon. Soreness of the diaphragm with painful breathing was a common symptom. Erythema of the face and neck was not uncommon. Some of the cases resembled typhoid fever to a remarkable degree. The course of the fever being almost identical, the roseola was similar to that of typhoid and in one case there was epistaxis. But the nervous symptoms were never so marked and the patient did not seem as ill as with typhoid of the same degree of pyrexia, etc. Severe pain and burning sensation in the eyes were common and circumscribed corneal hemorrhage occurred in three cases. One case showed optic neuritis and hemorrhages of the fundus similar to that of acute nephritis. Oedema of the ankles was common, and in a few instances swelling of the knees and elbows leading to a diagnosis of rheumatism. Cough, slight bronchitis and dyspnea frequently existed. The rate of respiration not uncommonly reached 36 to 60. The urine occasionally showed red blood corpuscles with a trace of albumen.

Urination was sometimes painful, and a positive diazo reaction was frequently obtained. There was generally a slight leucocytosis in the second or third week.

A more constant and valuable diagnostic point was the eosinophilia. It was present in every case and in about one-fourth of the cases was above 40%, while in two cases it reached 81%.

In the following conditions eosinophilia is found, but as a rule the other symptoms are such as to permit of no difficulty in diagnosing these conditions from trichinosis: In pneumonia just before the crisis, a few extensive skin diseases, with some other intestinal parasites, such as *uncinariasis*, round worms, tapeworms, etc., and in bronchial asthma.

The subsidence is always by lysis. There were two fatalities, one from a complicating typhoid fever, and the other from the disease itself. This patient died in delirium with respiration of 60, pulse 132, dry tongue, and high fever. It is a noteworthy fact that in this case as in a great many other of the severe cases, the eosinophilia was only slight.

Henry Albert (*Amer. Jour. Med. Sci.*, Aug. '10) reports an epidemic of fourteen cases in Iowa City, all caused by eating boiled ham; at least thirteen of the cases coming from the same ham. He discusses in the main, two points: First, The Thermal Death Point of *Trichina*, and second, The Eosinophilia. In regard to the first point he communicated with several of the leading packing houses to ascertain what their custom was as to boiling hams. Their reports were as follows: (a) "Temperature of water about 190° to 200° F., for one hour, then gradually cooled to 155° or 160° F., at which point temperature is maintained until cooking is finished; their rule being 38 minutes per pound of weight of the ham. In other words, a ten-pound ham is cooked six and a half hours." (b)

"We believe that the temperature of 170° F. destroys the effectiveness of the trichinae, but we always see that a temperature higher than this is reached in our ham-boiling vats." (c) "Cooked at an average temperature of 200° to 212° F."

As to the ham in question, no definite data could be gotten, the firm stating that they were cooked at various temperatures, according to the size of the ham and demand of the trade. They state, however, that an average temperature of from 200° to 212° is reached. This investigation seems to show that hams as ordinarily boiled are not absolutely free from danger, but on the other hand, the danger from this source is rather remote. Thorough salting and hot smoking generally kill the parasites, but they have been found alive in pickled meats fifteen months after pickling.

As to the second point, he verifies the former statement as to the value of eosinophilia in the diagnosis. He is in accord with Thompson in his belief that the disease is much more common than generally believed, and that we should all be more on guard for it.

O. M. G.

#### NEPHRITIS WITHOUT ALBUMIN.

C. A. Howland (Bos. Med. and Surg. Jour., July 28, '10) endeavors to show that nephritis without albumin is much more common than is generally supposed.

He reviews the statements of a great many of our leading clinicians and authors with the following results: "All, with one exception, admit that chronic interstitial nephritis may exist without albumin, and, with one exception, they do not admit that acute nephritis may exist without albumin. They all fail to impress the readers with the absolute necessity of a microscopical examination of all urine."

During eight months of last year he examined 550 specimens in the laboratory of Union Hospital and of this number found

21 cases of nephritis that did not show albumin. Three of these were fatal.

Heller's nitric acid test was the one used principally. A few hyaline casts were not recognized as sufficient evidence upon which to base a diagnosis of nephritis, but when they were present in considerable numbers, and granular casts were also present, the case was diagnosed as nephritis. He emphasizes the fact that several of these were cases of acute nephritis.

He concludes that no examination of urine can be considered as negatively conclusive until a thorough microscopic examination has been made.

O. M. G.

#### SURGERY

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#### THE CYSTOSCOPIC EXAMINATION IN RENAL TUBERCULOSIS.

Benjamin S. Barringer (Annals of Surg., Aug., 1910) summarizes as follows:

1. By means of the cystoscopic examination we can almost always tell which kidney is affected in renal tuberculosis. The exception to this is when the tuberculous process is shut off from the kidney pelvis, or when the kidney excretes nothing at all through the ureter.

2. The extent of the lesion can not be accurately determined by the cystoscopic examination, which must in all cases be supplemented by ureteral catheterization or urinary separation.

3. Aside from its rigidity the most typical changes in the urethral orifice are. (a) tubercles around the orifice; (b) red granulations; (c) enlarged, thickened and ulcerated orifice.

44. A ureter which looks normal and which is contracting and excreting urine, indicates in the large majority of cases a kidney which is excreting normal urine as

regards pus and tubercle bacilli, and has a normal functional capacity.

5. In some cases the diagnosis of tuberculosis can be made by means of cystoscopy alone. This is of considerable value when tubercle bacilli are not found in the urine.

#### CLINICAL EXPERIENCES WITH THE CAMMIDGE REACTION.

Willis, McGrath, Pilcher and Balfour (Surg. Gynec. and Obstetr., Aug., 1910) give as the result of their work in the laboratory of St. Mary's Hospital the following summary:

1. That even where the most elaborate care is exercised to follow the technic of Mr. Cammidge's "C" reaction in the most uniform manner, *if knowledge of the clinical histories and other factors of the personal equation be eliminated*, the end results, judged by Mr. Cammidge's own criteria, must be considered, as a means of diagnosing disease of the pancreas, as both valueless and misleading.

2. There is no apparent clinical relationship between disease of the pancreas and any of our various types of end reaction.

3. It does not seem to us that the end reactions are artifacts, but rather that they indicate actual metabolic variations. The relationship of these changes in metabolism to the welfare of the patient is not apparent.

II. C.

#### HEMORRHAGES IN GOITRES.

Bruning (Archiv für Klin. Chir. 1910, XCI, 614) says that hemorrhage occasionally sets in and terminates fatally as a complication in goitres. He claims that this is frequently due to hemorrhages in the goitre. He reports a case where a man after firing several shots from a gun was suddenly seized with intense disturbance of breathing and circulation due to a sudden enlargement of the goitre. Upon operation a small hemorrhage was found in the parenchyma of the gland.

There is probably an amyloid degeneration of the vessel walls causing them to become thin and friable. The clinical symptoms are due to the sudden increase in volume and the consequent pressure upon the trachea. External violence, sudden and severe exertion may cause hemorrhage; often severe attacks of coughing due to tracheal or bronchial catarrh, may cause sudden arrest of the current in the cervical veins and therefore in those of the goitre—this causes increased pressure that may rupture the friable vessels in the gland.

An acute attack of goitre asthma may be due to acute catarrh of the bronchial tubes, acute inflammation or hemorrhage of the goitre.

Differential diagnosis. (1) In tracheal catarrh the laryngeal mirror will show change in the trachea and no difference will be noticed in the goitre. (2) Inflammatory: There is usually fever and tenderness with rather a slow onset. Oedema and redness of the skin is often present. (3) Hemorrhage: Sudden onset of intense dyspnoea without fever—often there is a history of external violence. Operation in this type is often immediately indicated; otherwise the application of an ice bag, rest, milk diet, and morphine for the pain are called for.

F. W. B.

In a recent address upon "When and By Whom Should Surgery Be Advised," Dr. John B. Deaver urges a more complete co-operation between the physician and surgeon and says that for every operation there should be several consultations instead of several operations for every consultation. By such union of council the best interest of the patient is conserved, precipitate surgery checked and eleventh-hour operations would be relegated to the past.

Be sure to attend the annual meeting of the State Medical Society. Bring your medical friends and urge non-members to join their county society and come to the State Society meeting. Colorado Springs, October 11th to 14th.

GYNECOLOGY AND OBSTETRICS

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Denver, Colo.

LEUCOPLAKIC VULITIS.

V. Bonney (Brit. Med. Jour., Dec. 18, 1909) claims that many authors have confused this condition with kraurosis vulvæ, which is a distinct condition. Leucoplakic vulvitis is a chronic inflammatory condition of unknown origin, characterized in its early stages by hyperemia and cellular activity, and in its later phases by marked epithelial hypertrophy and a thickened, sclerosed and retracted condition of the sub-epithelial tissue. It may cover the whole of the vulva and some adjacent skin, but never invades the urethral meatus or vestibule. Clinically, there are four stages. In the first the parts are swollen, red and dry. In the second the labia minora decrease in size, the surface is whitened, and the sub-epithelial tissues thickened. In the third, cracks and ulcers appear, at the base of which carcinomatous changes are common. In the fourth, if carcinoma does not occur the vulva surface is smooth, shiny and white, and owing to the contraction of the sub-epithelial tissues, the labia minora and clitoris have practically disappeared, and the disease is quiescent.

In the first and second stages the most striking symptom is pruritis, in the third, pain from exposed nerve endings. In the fourth the patient ceases to complain.

The histologic changes fall into two stages which, however, may exist together. In the first the epithelium is swollen and the sub-epithelial tissues abnormally vascular and crowded with lymphocytes, with few or no polymorphonuclears. In the next stage in addition to the lymphocytes there are groups of plasma cells with increased number of hyalin connective cells. The elastic fibers in many places completely disappear, leaving a zone of de-elasticized and hyalin looking tissue between the epi-

thelium and normal tissues. Many of the papillæ of the corium reach the surface and account for the extensive excoriations and fissures.

Kraurosis vulvæ consists of an atrophic condition of the vulva, associated clinically with stenosis of the vaginal orifice and pathologically with certain changes of the dermis. The labia minora, vestibule, orifice of the urethra and that of the vagina are effected, sometimes the hood of the clitoris; but the skin of the outer surface of the labia majora, folds of the skin of the thigh covering the perineum and surrounding the anus, never.

The muco-cutaneous surface is at first red and glistening, but soon becomes thin and of a pale yellow color, while the labia minora, the mons veniris, and the clitoris disappear or atrophy, the pubic hair becomes brittle and the orifice of the vagina contracts so that a digital examination is made with difficulty. The principal symptom complained of is soreness, pain on urination or on coitus.

The microscopic picture is quite different from that of leucoplakia. One of the most striking features is the intercalation of polymorphonuclear leucocytes between present in all parts except where massive collections of plasma cells have occurred. It would appear that deficiency or absence of some ovarian factor in the economy of the organism plays a large part in the causation of kraurosis vulvæ.

LACTIC ACID IN VAGINAL SECRETIONS.

N. Cukor (Klin. Therap. Wochenschr., Dec. 20, 1909) writes that only lactic acid and its preparations correspond to the normal chemistry of the vagina and that all other method of disinfection and medicaments should be considered unsuitable and injurious.

From the investigations of Zweifel, who determined the amount of lactic acid in

the vaginal secretions, the amount was found to be 5.4 parts per 1,000 of free lactic acid and 3.5 parts per 1,000 of combined lactic acid. He concludes that the lactic acid is a germicidal agent and advises its use in the following conditions.

1. For the daily hygienic toilet of healthy women as a substitute for the lactic acid lost from the vagina after washing, bathing, or douching.

2. For favoring the normal physiologic self-cleansing of the genital tract after menstruation, and during pregnancy.

3. For the disinfection of the vagina, and especially in case of purulent secretion from the cervix and the uterus (in strength of 0.5 to 1 per cent.).

4. For the cure of erosions and catarrhal affections of the vagina, cervix and uterus.

C. B. I.

#### AIR EMBOLISM OCCURRING DURING LABOR.

Dr. John Campbell (Address at the Seventy-eighth Annual Meeting of the British Medical Association, London) states that this condition is more frequent than generally supposed. Symptoms usually described are those of pulmonary embolism from clot. This, however, is not the case in those who recover, as a blood clot causes a permanent block to the circulation, while air has a tendency to break up and escape through the lung tissues.

The only important cause is from delivery of the patient under an anæsthetic in the left semi-prone position and failure to turn onto her back as soon as the child's head is born. The retention of the placenta within the uterus is a necessary factor as lying in the cervix it imprisons the air within the uterine cavity and with each contraction more air is forced into the sinuses and passes to the heart and lungs. Treatment consists in completing the delivery and performing all obstetrical operations with the patient on her back. When

the accident has occurred, the placenta should be immediately removed with the hand as attempts at expression are dangerous, tending to force more air into the circulation. Saline infusion and strychnine hypodermics should be administered. Doctor Campbell reports two illustrative cases.

#### NEUROLOGY

Edited by

E. W. Lazell, M.D.,  
Denver, Colo.

#### NEURASTHENIA FROM OVERSTUDY.

Special attention the world over is being called to the faulty and unscientific methods of educators, which may possibly lead to a systematic attempt to put educational methods under the supervision of those qualified to teach according to the laws of psychology. The youths of our country have suffered severely but the reaction is setting in. The nervous breakdowns reported as the result of overstudy seem to be on the increase. A critical examination of the cases shows that the vicious results are due not so much to overstudy as to faulty methods of study, and are not cases confined to academic students but a fair proportion is found among medical students.

R. Friberger (Upsala Läkare Forh. XV) analyzes forty cases of neurasthenia among students and ascribes the condition to overwork. Eleven were medical students. His conclusions were that from 41 to 73% of all cases showed hereditary taint.

Still other investigators have found that the largest proportion of cases occurred among those whose parents were sturdy peasants, in whom no neurotic taint could be found who had to work hard to get an education, and who had had poor early training in reference to their habits of study. It would seem that these cases put the etiological factor where it belongs.

#### NEURITIS SECONDARY TO ARTHRITIS.

Mr. Hilton lays down the law that "the same trunks of nerves whose branches sup-

ply the groups of muscles moving a joint furnish also a distribution of nerves to the skin over the insertion of the same muscles, and to the interior of the joint." He takes the circumflex as an illustration of the law. Whether or not later investigations proved this law, to be correct, referring to the anatomy of the part) it can be said they have proved that localization in the central "nervous system when studied in reference to the physiology of the peripheral organs, is in centers for groups of functions and for associated functions and not in centers for single dissociated acts. This latter law will probably account for the spasms occurring in muscles moving an inflamed joint but will not explain a neuritis of the nerves supplying these muscles. The explanation has been sought by some authors under the disguise of a "reflex neuritis."

A number of rather obscure cases of neuritis formerly difficult of explanation are more recently placed in this class. Reference is not here made to the cases described as simple neuritis of a joint, especially that of the shoulder joint, in which there is atrophy of the overlying muscles with more or less anæsthesia and considerable joint limitation, but to those cases in which there is distinct arthritis with pain, inflammatory changes in the joint, spasms of the overlying muscles, atrophy, tenderness of the nerve trunks, etc., cases in which there is neuritis secondary to arthritis.

The list of conditions falling under this head is much larger and more important than appears at first sight, and it might be useful to mention some of them. That of the shoulder is most often recognized and includes peri-arthritis, bursitis and fracture of the surgical neck. Pott's disease, curvatures and typhoid spine are analogues in the vertebral column. Gonorrhœal arthritis is peculiar in that it often attacks joints rarely affected in acute

rheumatism, such as the sterno-clavicular, intervertebral and sacro-iliac. It is responsible for some of the cases with curvature, spasm, atrophy and lumbar pain and indeed for occasional cases classified as lumbago. Analysis of ten of the writer's cases of so-called "sciatica" proved seven to be a disease of the sacro-iliac or lower lumbar vertebral articulations with neuritis. In all these conditions the patient seeks relief from the pain. Old cases of tuberculous hip or knee joint disease nearly always show this condition.

The treatment is that of the arthritis.

E. W. L.

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#### DERMATOLOGY

Edited by

A. J. Markley, M.D.,  
Denver, Colo.

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#### EHRLICH'S NEW REMEDY FOR SYPHILIS.

The Journal of the American Medical Association for August 13, 1910, contains an editorial, two foreign letters and a review article, dealing with the recently announced discovery by Ehrlich of a new remedy for syphilis, which is said to produce marvelous results.

This substance, called by Ehrlich "606," is a synthetic compound of arsenic, and is the result of many years of study and experiment. It is at present used as intramuscular or as intravenous injections, one injection being sufficient to cause the complete destruction of all spirochetes within 24—48 hours and the disappearance of all active symptoms within 6—14 days. Its use is said to be without danger to any tissue of the body or to health, and indeed quite often gives rise at once to an increase of strength and a feeling of well being. Intramuscular injections cause quite a painful local reaction and at times considerable fever, and wide spread neuralgic pains: the intravenous injections are painless, and later improvements in technique seem to permit subcutaneous injection without local pain.



Equally satisfactory results are obtained in all stages and in all forms of the manifestations of syphilis, cases which have for many years resisted all other treatment yielding in a most surprising manner and with great rapidity. The reversal of the Wassermann reaction shows variations in different hands from 10% to 95% of cases and in time from a few days to one month.

Ehrlich has placed his product in the most capable hands for hospital and clinic trial and observation, and it is not to be available for general use until at least 3,000 cases have been kept under observation for sufficient time to determine the best methods of administration and the possibilities of deleterious after effects.

Wechselmann of Berlin has had the largest experience and has made the first clinical reports, the astonishing nature of which is shown as follows:

"I saw on Saturday, and examined with the greatest care, a patient with about 20 roseola spots on the body and a foul erosive chancre on the shaft of the penis. He was given an injection at 3:30 p. m.; at 7:30 p. m. the eruption had almost entirely disappeared. Early on Sunday the chancre was clean and almost without any induration."

"H., aet. 35. Infection at the end of 1909, beginning January 3, 1910. Twelve injections Hg., also K. I. In March very weak, beginning ulceration of throat. Fumigation Hg. Much reduced in weight and strength. Crusto-ulcerous syphilides scattered over whole of face, trunk and extremities; numerous postular syphilides in scalp. Uvula entirely destroyed, other structures of throat are much infiltrated and swollen and there are many superficial ulcerations covered by foul exudate. On May 24th he was given an injection of 0.4 g. 606. Six days later all ulcerations were clean and in process of healing, patient feeling much better and begins to swallow and walk about. June 13th, everything entirely healed."

Neisser, than whom there is no higher authority, says: "It is too early to make definite statements, but it can be affirmed with certainty that the new remedy exerts a remarkable, even surprising action, both on the spirochetes and on the active lesions, the retrogression of primary lesions, papules, and ulcerating lesions and even syphilitic involvement of the brain, being so rapid as to leave no doubt of its specific effect."

In view of the great hope and enthusiasm, aroused by such reports, coming as they do from men of the highest standing and reputation, a word of caution as to their too ready acceptance is not out of place, and this word is admirably supplied by an editorial in *New York Medical Journal*, August 27, 1910, in which a comparison is made of this announcement with that of Koch's discovery of Tuberculin and attention directed to the great enthusiasm aroused at that time and the disappointment which followed further study and trial. It is pointed out, however, that there is more ground for hope in this case, as Ehrlich has been able to test his remedy first very thoroughly on animals, and later in the clinics and hospitals on human syphilis.

The drug is prepared under government supervision to prevent adulteration and poor imitation, and if further study and trial indicate that present opinions of its efficacy are justified, it will be made accessible to all, in the same manner as now obtains with vaccine virus, diphtheria antitoxin, tuberculin, etc. A. J. M.

One of the most important and far-reaching acts of the House of Delegates at the recent meeting of the A. M. A. was the creation of a standing committee to be known as the Council on Health and Public Instruction. Its personnel is as follows: Dr. H. M. Bracken, Minneapolis; Dr. W. B. Cannon, Boston; Dr. Henry B. Favill, Chicago; Dr. J. N. McCormack, Bowling Green, and Dr. W. C. Woodward, Washington.

## *Announcements*

### *THE SOCIAL PROGRAM.*

The Committee of Arrangements for the Annual Meeting announce the Social Program as follows:

Tuesday Evening—President's Reception at The Antlers; dancing.

Wednesday Evening—"A Night in the Cañons." Bonfires and a barbecue at one of the cañons for members and their wives.

Thursday Evening—Banquet at The Antlers.

Ladies will find many pleasant surprises provided for their entertainment.

## *Correspondence*

### *THE COLORADO SPRINGS MEETING*

The annual meeting of the State Society, as has been announced, will be held in Colorado Springs on the 11th, 12th and 13th of October, and the committee of arrangements is bending every effort to make this one of the best meetings ever held so far as the pleasure and comfort of the attendants are concerned.

The Antlers hotel will be headquarters, the general meetings being held in the ball room, and the House of Delegates meeting in the Palm room. The scientific program starts at 9 a. m., and if by noon one or more papers on the calendar have not been reached, they will be heard at an afternoon session; otherwise, there will be only morning sessions. There will be no section meetings.

The president's reception will be held on the evening of the 11th. On the 12th a trip in special cars to Cheyenne Cañon has been arranged, on which occasion something unique in the way of entertainment will be provided; and on the 13th the annual banquet will be held at the Antlers under the supervision of Dr. W. W. Williams, who will announce details and fees later.

Members are urged to bring the ladies of their families with them, as a special effort is being made to cater to their pleasure. One of the features will be a tea at the Colorado Springs Golf Club on one afternoon; we also hope to be able to place at their disposal during their stay a sufficient number of automobiles to accommodate all who wish to make trips to points of interest in and around Colorado Springs.

Some of the leading hotels have made unusually attractive rates and it is hoped that many of the members will come on Saturday before the meeting, and make it a full week's outing.

It is earnestly desired that we have an unusually large attendance, and our local members hope to have the hearty co-operation of every one in their effort to make this the very best meeting in the history of our society. F. L. DENNIS.

## *New Members*

John F. Morgan.....	Cort Collins
D. E. Ford.....	Morley
E. D. Burkhard.....	Del Aqua
Chas. E. Hansen.....	Boulder
W. L. Snair.....	Louisville
H. W. Gibbs.....	Smuggler
J. H. Brown.....	Colorado Springs
H. Trossbach.....	Colorado Springs
H. G. Thomas.....	Victor
C. M. Haviland.....	Fort Collins
J. Ed. Ray.....	Sugar City
Chas. H. Farthing.....	La Junta
H. M. Thompson.....	Pueblo
H. B. Killough.....	Pueblo
J. A. Weaver.....	Greeley
R. E. Morris.....	Longmont
A. G. Walker.....	Gorham
C. W. Russell.....	Lamar

Dr. W. W. Grant of Denver was recently run down by a fast going tramway car while driving in his automobile. The machine was wrecked, but Dr. Grant fortunately escaped with a few bruises.

## Constituent Societies

### LARIMER COUNTY.

**Larimer County Medical Society.** Special meeting August 3, 1910. Y. M. C. A. Building. Called to act on application for membership of Dr. John F. Morgan, who was properly endorsed by the Board of Censors and presented, and on motion duly seconded and Dr. Morgan unanimously elected a member of the society. Adjourned.

E. STUVER.  
Secretary.

### LAS ANIMAS COUNTY.

The regular meeting of the Las Animas County Medical Society was held at the office of Dr. Abrahams, on Friday evening, August 5th, with a fair attendance. As the essayist of the evening was unable to attend, the evening was taken up principally in discussing clinical cases.

Two new members were elected, Dr. D. E. Ford of Morley and Dr. E. D. Burkhard of Del Aqua, who transferred his membership from Delta County.

We regret losing two good members, Dr. W. S. Chapman of Rouse and Dr. A. S. Stanley of Prior, who transferred their membership to Walsenburg, where a new society was organized a short time ago. We wish the new society all kinds of success.

There being no further business, the meeting adjourned.

PERRY JAFFA,  
Secretary.

### NORTHEAST COLORADO MEDICAL SOCIETY.

The annual meeting of the Northeast Colorado Medical Society was held in Sterling, Colorado, Wednesday, August 3, 1910.

The following officers were elected to serve for the ensuing year:

President, W. B. Lutes, Merino; vice president, J. A. Strong, Sterling; Secretary-Treasurer, N. Eugenia Barney, Sterling; delegate, L. E. Stanton, Sterling.

The usual programme was omitted on account of the public meeting and banquet to be held the same evening.

The Northeast Colorado Medical Society held their first public meeting Wednesday evening August 3, 1910. Dr. J. N. Hall of Denver delivered a very interesting and instructive address on "The Prevention of Typhoid Fever." The meeting was so well attended and successful that it is hoped it will be followed by others through the coming year.

The banquet at the Pacific Hotel, following the meeting, was enjoyed by the doctors and their friends.

N. EUGENIA BARNEY,  
Secretary.

Dr. E. T. Boyd of Leadville was in Denver during August to see how his rooms in the new Metropolitan Building were progressing.

## Books Received

**Gynecology, Vol. IV., The Practical Medicine Series.** Edited by E. C. Dudley, A.M., M.D., and C. von Bachelles, M.S., M.D., 1910. The Year Book Publishers, Chicago, 40 Dearborn Street.

## Pamphlets and Reprints

**The Solubilities of the Pharmacopoeial Organic Acids and Their Salts,** by Atherton Seidell. Treasury Department. Public Health and Marine Hospital Service of the United States. Hygienic Laboratory. Bulletin No. 67. June, 1910. Washington. Government Printing Office. 1910. Pp 98.

**Facts and Problems of Rabies,** by A. M. Stimson. Treasury Department. Public Health and Marine Hospital Service of the United States. Hygienic Laboratory. Bulletin No. 65, June, 1910. Washington. Government Printing Office. 1910.

**Digest of Comments on the Pharmacopoeia of the United States of America and the National Formulary.** By Murray Galt Motter and Martin I. Wilbert. Treasury Department. Public Health and Marine Hospital Service of the United States. Hygienic Laboratory. Bulletin No. 63, June, 1910. Washington. Government Printing Office. 1910. Pp 464.

**Hygienic Laboratory. Bulletin No. 66.** June 1910. Treasury Department. Public Health and Marine-Hospital Service of the United States. Walter Wyman, Surgeon-General. Washington. Government Printing Office. 1910. Pp 108.

**Maritime Quarantine,** by Leland E. Cofer, Assistant Surgeon-General Public Health Bulletin No. 34. Treasury Department. Public Health and Marine-Hospital Service of the United States. Washington. Government Printing Office. 1910. Pp 64.

**The Sanitary Privy: Its Purpose and Construction.** By Wardell Stiles, Ph.D., Public Health Bulletin No. 37. Treasury department. Public Health and Marine-Hospital Service of the United States. Washington Government Printing Office, 1910. Pp 24.

**Transactions of the Eighteenth Annual Meeting of the Hawaiian Territorial Medical Society Held in Honolulu.** T. H., November 20 and 22, 1909, Honolulu. Hawaiian Gazette Co., Ltd., 1910. Pp 83.

**Transactions of the Seventh Annual Conference of State and Territorial Health Officers With the United States Public Health and Marine Hospital Service.** Washington, June 2, 1909. Treasury Department. Public Health and Marine Hospital Service. Pp 86, Washington. Government printing office, 1910.

**Observations on Brain Surgery and Report of Some Interesting Cases,** by William Edward Fitch, M.D., New York.

## Books Reviewed

**A Text Book of Diseases of the Ear.** By Macleod Yearsley, F. R. C. S. Cloth. Price \$4.00. Pp 452, with 128 illustrations. Chicago Medical Book Company. 1908.

The author has certainly accomplished his object in that he has given us "as complete an account as possible of the various diseases and injuries to which the organ of hearing is liable, and in as concise a form as is compatible with clearness." The chapter on the anatomy and physiology is very full for a medium-sized text-book. The chapter on "Clinical Investigation" is systematic, including first inquiry into the family history, and history of present and past conditions, followed by examination of the ear, nose, and post-nasal regions, and the systematic conditions, including rheumatism, gout, syphilis and other general diseases. Gentleness in the examination is insisted upon. The chapters on injuries, acute and chronic diseases, are up-to-date. The chapter on internal ear diseases is unusually clear. The one on the influence of general diseases upon the ear is in keeping with the rest of the work and reveals the author's broad views of the diseases discussed. The reviewer regards the book as the best of its size that has been published in recent years. Wm. C. B.

**Medical Electricity and Röntgen Rays,** by Sinclair Tousey, A.M., M.D. New York City.

This work published by W. B. Saunders Company contains about ten hundred and sixty-five pages of very instructive reading. It is the most complete and up-to-date book on the subjects treated with which we are familiar.

As Dr. Tousey states in his preface, the science of electricity is developing so rapidly that it would require a weekly publication, rather than a text-book, to present the subject in an up-to-date manner. Nevertheless, the author has well covered the entire field and given us practically all the advanced theories and various modes of application of the different forms of electric currents which are used therapeutically. The pages devoted to the x-ray are well written, and the production of the x-ray plates is particularly good for a text-book. The closing chapters treat on Röntgenotherapy and radium in a comprehensive yet concise manner.

Great credit is due the author for giving the profession such a valuable book and it assumes at once a recognized place as practically an encyclopedia on the subjects treated.

It should have a place in the library of everyone who is interested in the subjects of electricity and the x-ray. S. B. C.

**Pulmonary Tuberculosis and Its Complications With Special Reference to Diagnosis and Treatment for General Practitioners and Students,** by Sherman G. Bonney, A.M., M.D. Second edition, thoroughly revised, with 243 original illustrations, including thirty-one in colors and 73 x-ray photographs. Saunders, 1910.

The first edition of this book appeared in

July, 1908, and was reprinted in August, 1909. This edition has been rewritten and considerably enlarged. It is a systematic treatise of 106 chapters and nearly a thousand rather closely printed pages. The author modestly says that the book is for the benefit of the general practitioner and student and disclaims any desire to make it encyclopedic in scope or to write for specialists on tuberculosis. Nevertheless, it would be hard to find any practical aspect of the subject that is not thoroughly discussed and the specialist in phthisiotherapy is just the one who will appreciate the completeness of the work. At the same time it is an easy book to read on account of its logical arrangement and regard for proportion, while a detailed table of contents and a complete index make it easy for anyone to find whatever interests him most. That one man should have written so complete and thorough a work while constantly engaged in an exacting practice is truly remarkable.

The illustrations are liberally, almost lavishly, supplied and are all original. In addition, there are many vivid word-pictures of individual cases which are skillfully used to illustrate the didactic teachings.

The author quotes a great number of investigators and observers in all parts of the world, but he has the ability to make his own conclusions and methods clear and distinct to the reader. A good example is found in the chapter on the physical signs in incipient cases. After speaking of the slight importance of other physical signs in early cases, he says: "True incipient cases are recognized almost solely through recourse to auscultation. The prominent auscultatory signs, as a rule, do not relate to changes in pitch, quality, rhythm or intensity of the respiratory sounds, but consist of fine, crackling râles, heard chiefly at the end of inspiration following a cough." In the author's opinion, attention to slight and perhaps illusory modifications of the normal breath-sounds, such as harshness, roughness, feebleness, broncho-vesicular quality, etc., with the failure to note these distinct crackles, is a very common source of error. He emphasizes the fact that such râles are not always at the apex, but may be under the clavicle, in the axilla and in the upper interscapular space. When found such râles are generally conclusive. "Persisting, sharply localized unilateral roles may usually be regarded as pathognomonic of tuberculosis."

Part V., devoted to the numerous complications of pulmonary tuberculosis and their treatment, is the largest in the book and enters all the special fields of medicine and surgery. It gives abundant evidence of the breadth of the author's knowledge and personal experience.

Phylaxis is treated very largely from the

The second annual meeting of the American Association of Clinical Research will be held in Boston on September 28th and 29th, 1910.

Every physician is most cordially invited to become a member. Applications and program will be forwarded on request to James Krauss, 419 Boylston Street, Boston, Mass.

standpoint of public sanitation, the reciprocal relation of the tubercular invalid and the community at large, methods of education and control being discussed in much detail. A chapter headed, "What the Public Should Know," summarizes the doctrines of personal hygiene with reference to this disease.

The part on treatment fully justifies the author's reputation as eminently successful in the practical care of tubercular invalids and securing for them the best possible results.

General indistinction from specific treatment is considered in 171 pages, which are divided into eleven chapters. The author's main insistence throughout is on "the greater resistance to tuberculosis accruing from an outdoor existence, in favorable climates, with suitable provision for diversion, recreation and exercise." The methods of securing fresh air, night and day, are considered in great detail and illustrated by many beautiful pictures.

As to climate, Dr. Bonney naturally expresses the view held by all Colorado physicians that there is a great advantage in a dry, cool sunny climate, such as is found at moderate altitudes in the Rocky Mountain region. In a careful discussion of all the climatic factors he lays special stress on the heat abstracting quality of a dry atmosphere. While air is the first consideration, diet, rest, exercise, medicines and sanatorium life are all systematically discussed. The treatment of special symptoms is then taken up.

The book closes with a section on specific treatment dealing with theories of immunity, the use of tuberculin and other bacterial vaccines and an analysis of the author's personal observations in this field. The conclusion is that "some benefit may be expected to attend the employment of such an agent in a fair proportion of cases otherwise adjudged incapable of improvement," but "it is highly important that the attitude of the profession with reference to the opsonic index vaccine therapy and even tuberculin medication, should be that of the utmost conservatism."

It is impossible in the limits of a review to give an adequate impression of this book. A glance over the table of contents would be better. This is a book to be read and to be kept on hand for habitual reference. It is planned on a large scale and executed with abundant knowledge and practical common sense. The more one uses it the more he will value it.

H. T. P.

**Gynecology.** Vol. IV. Practical Medicine Series. Comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Gustavus P. Head, M. D., Charles L. Mix, A. M., M. D. Series 1910. Chicago, the Year Book Publishers, 40 Dearborn Street.

This volume is again gladly received. It is better than the one which appeared in 1909, in that the resume of the articles are more complete in themselves. This book offers an excellent opportunity of reviewing the principal articles in gynecology which have appeared during the last year. It is easy reading and to the point.

C. B. I.

## Items

Members of The House of Delegates are earnestly requested to be present at the opening meeting at The Antlers, Monday evening, October 10th, at 8 o'clock.

The annual meeting of the Burlington surgeons held in Denver September 9th was largely attended and was pronounced a great success. Papers read by local men were, "The Repair of Fractures," by Dr. George F. Roehrig of Denver, and "Injuries to the Cornea," by Dr. Melville Black of Denver.

Dr. and Mrs. H. G. Wetherill of Denver sailed for Europe September 9th. Dr. Wetherill expects to attend the Medical Congress at St. Petersburg and visit other medical centers while in Europe. They will probably return some time in December.

Dr. J. N. Hall gave an address upon the "Prevention of Typhoid Fever" before a public meeting of the Northeastern Colorado Medical Society at Sterling on August 3d.

Dr. George A. Moleen is about leaving for an extended European tour for observation and study of nervous diseases and psychiatry with the prominent men in this department in the various medical centers. He expects to return during May next.

Mr. D. L. Zimmerman, until recently associated with his wife as advertising manager of Colorado Medicine, died in Lexington, Ky., a few days ago.

Dr. Chas. D. Sprinkle, who recently came to Canon City from Ohio, has located in Sharon Springs, Kansas.

Dr. F. N. Carrier of Canon City leaves this month for Santa Rita, N. M., to take charge of the medical work of the Utah Copper Co. at that point.

Dr. Charles H. Wilkinson of Canon City has returned for a two months' automobile trip through the East. He was forced to abandon his car in Iowa on the return trip on account of muddy roads and completed the journey by rail.

Dr. John O. Stow of Canon City is convalescing from a severe attack of typhoid fever.

A daughter was born to Dr. and Mrs. F. R. Stopansky of Helper, Utah, on August 23, 1910.

Dr. F. A. Tower, 505 Emerson street, Denver, Colo., graduate of New York City hospitals, would like a position as an assistant to a surgeon in Colorado.

At the last meeting of the A. M. A. important changes in the constitution and by-laws were suggested and approved by the reference committee of the House of Delegates. They were finally laid over until next year for more deliberate consideration. The proposed changes were for the most part intended to clarify the text and define the duties of officers, as suggested by the experiences of the past few years during which the activities of the association have increased so enormously.

# COLORADO MEDICINE

OWNED AND PUBLISHED MONTHLY BY THE COLORADO STATE MEDICAL SOCIETY

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All communications to this publication must be made to it exclusively. It will be more satisfactory to all concerned if contributions are typewritten.

Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions.

Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession, will be gratefully acknowledged. The name of the sender should be given.

The journal will be issued on the 15th of each month. All copy must reach the editor not later than the first of the month. Advertisements of proprietary medicines will be accepted provided the preparations advertised have been approved by the council of pharmacy and chemistry of the American Medical Association. Address all communications regarding advertising to

Wm. G. MOYER, Advertising Manager, 219 National Vault Building, 1536 Welton Street

## NOTICE.

All subscribers are requested to notify the editor promptly of any change of address or failure to receive the journal regularly.

VOL. VII

OCTOBER, 1910

NO. 10

## Editorial Comment

(Articles appearing under this heading are contributed by various writers, and are published with the approval of the Publication Committee.)

### THE ANNUAL MEETING.

The fortieth annual meeting of the Colorado State Medical Society was the most successful meeting since its organization. Certainly few meetings can be compared with it. All the elements which make for success blended so happily that the meeting was both profitable and enjoyable to all who attended.

The weather before and during the meeting was ideal and many made the trip to Colorado Springs by automobile—all with pleasure, some with “troubles.” Colorado

Spring was at her best and the members of the Society and their guests were received with a cordial welcome that was more than made good during their stay. Too much praise cannot be accorded the committee of arrangements. Their plans were well conceived, and carried out with an attention to detail for the accommodation of the meeting and the social entertainment that has never been equaled at any of our meetings. The attendance was large, and members came early. The registration reached 125 at noon of the first day and the total was 218, being the second largest meeting on record.

The program was, generally speaking, a strong one both scientifically and clinically and was followed through with sustained attention and interest. The pa-

pers were read as called for with but one or two exceptions and there were no lapses, the time being fully occupied. In a program of such excellence, showing diligent work by all, little may be said of individual papers. The original work on the pancreas and the laboratory reports of blood investigations were of great value and received cordial words of commendation. Many of the clinical papers received unusual praise and elicited much careful discussion. Our fallacies are ever held up before us, but those complained of in one of the papers were so overshadowed by those of the author that it brought forth a discussion marked by a good natured, caustic humour that turned it to ridicule. The shouts of applause and laughter that followed served as a relief to an otherwise serious meeting, possibly as an excuse for the presence of the paper on the program.

The work of the House of Delegates was mainly confined to routine matters. No new policies were inaugurated and the business was transacted so readily as to leave the politicians with time on their hands, and they may consider the meeting an uninteresting one.

The Society put itself on record as strongly recommending the constitutional amendment, permitting the University of Colorado to teach medicine in Denver, to the favorable consideration of the voters of the state. The resolution appears in another column of this issue and we cordially endorse it and urge our readers actively to advocate its adoption at the coming state election. The work of the press committee for the year as shown by its report has been excellent. The suggestion that the work of this committee should be co-ordinated with that of other states and of the A. M. A. for the exchange of papers for publication is a most excellent one, and should be made effective. The treasurer reported a surplus for the year after meeting all expenditures. Two county medical

societies were organized during the year, one in Routt County the other in Huerfano County, and were granted charters. The work of the nominating committee was received with cordial approval. The selection of Dr. Will H. Swan of Colorado Springs for president for the coming year is a particularly happy one and a deserving tribute to a man universally beloved and respected for his personal qualities and professional ability. Steamboat Springs has been named as the next place of meeting. The "Moffat Road" has promised a low rate and ample accommodations, with Pullman sleepers and a night train.

Words fail us to express the appreciation of members and their wives for the generous, lavish entertainment provided. It surpassed anything given at any previous meeting and may lead us to expect too much in future. The ladies were provided for "every minute" and were extravagant with words of praise. The president's reception was a brilliant affair. The barbecue and jungle party on Wednesday evening was a "peach" and Dr. Magruder showed himself a master of managers, whether of a medical meeting or a circus. Dr. Dennis is a chef without compare and the French must sit up and take notice. The banquet on Thursday evening was a great success, and although many members had returned to their homes, nearly one hundred were present. It was an enjoyable, jolly affair, interspersed with specially prepared songs. Dr. Robert Levy acted as toastmaster and made many happy hits. Among the speakers were Drs. Freeman, Magruder, Black, Swan, McConnell and Hall.

The days spent at the fortieth meeting of the State Medical Society will long be remembered among the pleasantest in the lives of those who attended. The thanks of one and all are extended to the El Paso County Medical Society for their lavish attention and entertainment, and to each and all the good fellows who make up its membership and who did so much for the public and personal care of the guests at Colorado Springs.

### *THE EDITORSHIP.*

Owing to the press of other duties Dr. Henry S. Denison finds it necessary to give up his work on *COLORADO MEDICINE*, and with this issue he voluntarily retires from the editorship in favor of Dr. Leonard W. Ely. During the year of office Dr. Denison, assisted during his absence by Dr. C. B. Ingraham, has served the journal faithfully and well, and cordially appreciating his work the Publication Committee accepts a change with regret. Dr. Ely, recently from New York City, has been selected as editor for the coming year in the belief that he is especially fitted by past experience for this work. He brings to the journal an earnest desire to forward its interests and those of the State Medical Society, and the Committee bespeaks for him the hearty assistance and coöperation of the officers and members of the State Society and of the constituent county societies. *COLORADO MEDICINE*, as the organ and mouthpiece of the medical profession of the state, is intended to reflect the work being done by its members in the various local societies, and this may be accomplished and the journal made the best possible if the officers and members will correspond and give the editor abstract reports regularly.

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### *EPIDEMIC POLIOMYELITIS.*

During the past three years there have been many outbreaks of epidemic poliomyelitis in this country, scattered from the Atlantic to the Pacific coast, and they have occurred so frequently of late that the disease has attracted the anxious attention of the general public as well as of scientists. It has been a subject of careful study by Dr. Simon Flexner of the Rockefeller Institute for Medical Research, and while definite conclusions have not been reached, important new facts have been developed.

It is highly probable that the disease is contagious, but in what manner is not yet determined. There is good evidence

that the infectious agent is one of the smallest pathogenic organisms known and that it is filterable through porcelain. While there may be other avenues of entrance it has been amply shown that the infectious agent readily traverses the membrane of the naso-pharynx, and Dr. Flexner inclines strongly to the view that the nasal mucous membrane is the most common portal. Efforts have been made to determine methods of producing an immunity, and to find a serum which would be effective in the treatment of the disease, but as yet no material progress has been made on these lines, at least nothing is determined, the matter still being in the experimental stage. Very little has been added to our knowledge of treatment of this disease. The diagnosis is usually not made until the greater part of the damage to the spinal nerve cells has occurred. It is known that urotropin when absorbed by the system penetrates to the meningeal fluid and is there supposed to act as an antiseptic. Therefore in addition to the usual symptomatic treatment it is strongly recommended by several clinicians that urotropin be given as early as possible and in generous doses, during the acute stages. Other children of the household and such as may be exposed should use mouth and nasal antiseptic washes.

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### *THE CANCER PROBLEM.*

Notwithstanding the most diligent studies, until recently our knowledge of cancer has been practically limited to its malignancy, a few facts of its life history, and its histology. The real nature of cancer, its etiology and its cure have been a closed book. During the past eight years, however, our knowledge of this disease has been greatly enriched by means of animal experimentation, and many new facts have been developed. The light thus shed upon this obscure subject with its promise of large results has caused an awakening and



such wide spread interest that today there is no subject in medicine which is being pursued with such an intense activity as the "cancer problem." It has attracted the most brilliant minds of the profession, and the keenest investigators throughout the world, in England, Germany, Austria, France, Japan and America, are giving it their most studious attention, individually or with others under systematic direction, with the patronage of government subsidy or with that of some foundation well equipped for the work. Discoveries are being made that are vital to some phase of the problem, its etiology, life history, prevention or control, and are pregnant with suggestion for the further continuance of the work.

The experiments of Moreau, supported by more recent observations at the Imperial Institute for Cancer Research of England, clearly suggest that the tendency to cancer is not innate in the organism at birth and therefore that heredity instead of being a prominent factor in etiology may be quite negligible. The search for the parasite of cancer has been futile and is practically abandoned with the growing belief that the cancer parasite is the cancer cell itself. It is now known that the cancer cell is not only capable of maintaining an independent existence when transplanted in another animal of the same species, but under favorable environment may live for an indefinite period. The Jensen strain of mouse cancer has been transplanted through hundreds of generations without impairment of vitality. We have been taught to believe that malignant tumors never regress spontaneously, yet it has been repeatedly demonstrated that this actually takes place in transplanted tumors in animals.

Immunity to cancer is a fact. It is known to be established in most animals which have recovered, and it has been artificially induced by inoculation. Cancer

may acquire increased virulence by repeated transplantation, and inoculations from weakened strains of such cancers have been used successfully to produce artificial immunity.

These are some of the facts developed by animal experimentation and summed up by Ewing (*Journal, A. M. A.*, Jan. 22, 1910), which appear to bear most directly upon the human problem. That these findings in principle are in fact applicable to the human subject is confirmed in very large measure by the observations of the late Dr. Hodenpyl of New York (*COLORADO MEDICINE*, March, 1910). After trial in forty-seven cases of cancer, mostly unfavorable and inoperable, covering a period of four years, he called the attention of the profession to "the remarkable necrotizing effects upon carcinoma cells of the ascitic fluid from a recovered case of carcinoma wherever in the body of the patient this fluid is introduced," the ultimate value of this method of treatment to be determined by a continuance of correlated tests. (It is most unfortunate that this work was cut short by Dr. Hodenpyl's untimely death in May.)

The fact that regression of a malignant tumor in the human subject has been accomplished by systematic medical treatment is revolutionary to all present notions, the importance and significance of which can not be estimated. Our knowledge of cancer is broadened and is becoming specific. Four years ago Ehrlich said that "the beginning of the end of the cancer problem is in sight." It would certainly appear that we are definitely approaching the heart of the subject, and in view of recent developments it may not be too much to say that there is a solution for the "cancer problem awaiting us." In these days of startling medical discoveries anticipations are excited that it may be realized at no very distant date.

The attention of the public is being drawn more and more to the value of organized and systematic research in the field of scientific medicine. The very effective results of such work have vastly stimulated this interest, which is constantly whetted by the frequent reports of remarkable discoveries, both in the medical and lay press. It is but a short time since there were only a few laboratories on the continent engaged in such work. Now such laboratories are to be found not only on the continent but scattered throughout the United States at various medical centers. Many of these are doing authoritative work and much is expected of them. The returns are so satisfactory that it is no longer difficult to interest the philanthropic in their support. The latest foundation is that of the late George Crocker of New York. The bequest of approximately \$1,500,000 was recently given Columbia University for Cancer Research, and the university now announces that it is prepared to enter upon the work and invites the profession to send in specimens for diagnosis, with such data as are necessary for the statistical investigation of the etiology of cancer.

If Colorado is to fulfill the mission assigned her by certain reformers of medical education in their forecast of the future and be one of the four or five great centers of medical education, medical thought and practice of the United States, money must be available to provide all the facilities for the development of scientific medicine. One thing above all others would assist in the attainment of this destiny—an institute for medical research. Ample funds for the establishment and endowment of such an institution are at hand in the surplus wealth in this state. It is incumbent upon the medical profession to emphasize the benefits which accrue from an institute of this kind, that it may be pro-

vided by some man or group of men. We could then not only continue the laudable work of training our students "to help the sick and suffering," but also could aspire to turn out that product of modern medicine—the so-called "laboratory cynic and dead-room nihilopath,"—who is seldom called to the bedside, yet breathing the spirit of pure science and doubting the efficacy of empiricism, points the way to our most brilliant successes in clinical medicine, and leavens the profession with hope.

Cable despatches inform us that a conference of American physicians was recently held in Berlin at which Dr. Marks, one of Ehrlich's assistants, stated that the remedy "606" would be on sale in this country in November, that it was protected by international patents, and that as Ehrlich is already wealthy, one-half of the profits would go to an institute for medical research, the other probably to the manufacturer. Thereupon the conference unanimously passed a resolution recognizing the propriety of Ehrlich's retaining full legal control of the remedy. While we would not pretend to pass an opinion on this matter with the very meager information at hand, yet the fact that it is patented, taken in connection with the extensive advertisement of its remarkable advantages in advance of sale, and the attitude of Ehrlich in vigorously defending the remedy against assertions of ill effects observed, and upon telegraphic information only, smacks too much of the commercial exploitation of a "good thing" rather than of the scientific spirit and suggests caution in accepting "606" as the efficient remedy for syphilis without injurious effects now so loudly proclaimed.

It is proper, however, to state that all late reports on "606" have been favorable, even enthusiastic. A report of its first use in America will be found on page 386 of this issue.

## *Original Articles*

### *PRESIDENT'S ADDRESS\** *MEDICAL CENTERS.*

BY LEONARD FREEMAN, M.D.

Medicine from time to time has shifted its principal activities from one country to another. Once its center was in the Far East—Egypt, China and India. From there it gradually drifted westward, through Greece and Italy into Spain, and from there, by way of France and England, to Germany, where it now is. But another westward move is in sight, and it can safely be predicted that the United States will soon be recognized as the world-center for all things medical.

Particularly is this true of surgery. Only a few years ago our students sought their surgical Mecca in Germany, and no man's education was complete until he had studied there. But already the tide has turned. Not only is it appreciated that the opportunities are just as good in our own country, but many men, even the most distinguished, are coming from abroad to attend our superior surgical clinics. For instance, during the recent Congress of American Physicians and Surgeons, Prof. von Eiselsberg of Vienna, in an elaborate paper, attempted to teach us the best way of removing the hypophysis cerebri—one of the most delicate and difficult of operations. His method, although effective, was heroic, and resulted in much cicatricial deformity. When von Eiselsberg had finished, two American surgeons (Halstead of Chicago and Mixter of Boston) not only proved that the technique could be much simplified, but they were able to exhibit patients upon whom they had operated, cured of their disease without deformity or scar. Whereupon von Eiselsberg frankly stated that in

\*Read at the annual meeting of the Colorado State Medical Society, Colorado Springs, Oct 11th, 1910.

the future he would try the American method.

In our own country, the original medical center was in Philadelphia. In the course of time numerous others have arisen; for instance, in Boston, New York, Chicago, Cleveland, Rochester and elsewhere, the old westward tendency being still in evidence.

A medical center is not merely a place where many people receive treatment. If this were so, various quack institutions would be medical centers. The term implies much more than this. It means a place that has a national, if not an international, reputation. Its principal men must be widely known for their professional attainments and above suspicion ethically; and a large section of country, outside the immediate neighborhood of the center, must look to it for special advice and treatment.

When a city has once attained this eminence, the advantages to both the profession and the community are great. The profession, conscious of its exalted position, is stimulated to do its best, and for its efforts it receives a correspondingly adequate remuneration; the effect being felt all along the line, from the men of largest reputation down to the most humble practitioner. And, in addition, the men of such a center are able to retain as patients the intelligent and wealthy individuals who would otherwise drift to places of greater medical renown, which is a matter of considerable importance.

In other words, the greatest professional satisfaction and remuneration is not to be obtained by each individual working for himself alone, but all must strive towards the establishment of a recognized medical center which will merit the unlimited confidence and esteem of the surrounding country.

It would be a mistake, however, to suppose that this would be to the advantage of

such a center alone—that it would detract from the reputation of physicians in surrounding towns and cities. Experience has disproved this. For instance, the fact that Denver stands high professionally adds to the medical status of the whole of Colorado, as is evidenced by the ever-increasing confidence shown the physicians in the smaller cities and towns throughout the state.

A medical center is not easily established. If it were, every city would possess this distinction. It must grow in two directions—from within and from without—and neither of these methods can be neglected.

Let us understand just what this means. From within, there must of course be good men doing exceptionally good work in all the different branches. But something more than this is required. A reputation must be established abroad, and the wider this reputation the more surely will the desired result be obtained.

The reason for this lies in a well-known human trait that people estimate the value of things they possess largely by the opinion of others. If, for example, when they travel to other places they hear of their own city as a medical center and of the high standing of its physicians, they awaken to a proper appreciation of their local profession.

How, then, can this wide reputation be obtained?

There is but one way, which is, however, certain in its results, and that is by mixing with the outside medical world and not only informing it, but absolutely convincing it, of the excellence of the work being done at home. In other words, members of the local profession must attend outside medical societies, write papers and compile books, thus making their efforts felt away from home. The Mayos, for instance, might have done good work in Rochester until their hair turned white

and their teeth fell out, without establishing a surgical center, had they not written extensively and made themselves widely prominent in societies outside their own town; and the same comment applies to the men of Philadelphia, New York, Boston, Chicago, Cleveland, Denver and elsewhere.

The ability to perform this missionary work effectively is not possessed by everyone. It requires special aptitude and much preparation and training. Hence it is our duty to encourage all ambitions in this line, particularly among the younger men, in order to develop as many worthy representatives as possible and to overlook none. This is best done through our county societies and our state society. Every man should be urged to participate in these societies, because it is impossible to predict from what source, however obscure, the best material may come.

Above all, we should refrain from being narrow. We should bestow our applause freely upon all those who do good work, overlooking shortcomings and forgiving personal grievances in the interest of achievements which may add even a little to our general medical renown.

In my opinion, the programs of our societies should be arranged, as is the present one, to encourage the participation of as many as possible, particularly of the younger men. We should not depend upon volunteers alone, but should urge certain men directly—even telling them that their names have been placed upon the program and they will be expected to respond. In this way a more general interest could be stimulated and ability discovered where it was least expected, for it is a fact that those who might ultimately succeed best must literally be dragged into their first efforts.

In this connection, it should be recognized by all younger men that medicine offers today a larger field for all their am-

bitions, accomplishments and energies than any of the other professions—as writers, speakers, teachers, scientists, phil-anthropists and even politicians. Problems of paramount importance to mankind are clamoring for solution, and great eminence and remuneration are awaiting those who are fortunate enough to solve them.

An important function of a medical center is to teach. In fact, it might be said that such a center can not otherwise exist. This teaching can of course be partially done through literary effort, but this does not compare with the advantages of direct instruction.

I am convinced that it is of great importance that the medical and surgical clinics of every city in Colorado should not only be open to all reputable practitioners, but they should systematically be encouraged to attend them. This is particularly true of Denver, as the largest city and the natural center of this section. Nothing but good can result from such a course, both to physicians and to patients. The former will do better work when conscious of critical observation, and the latter will benefit from this as well as from other things, not the least of which is that their family doctors will be able to select with greater intelligence the best men for consultations or operations in special cases. These are not merely theoretical considerations, because the beneficial effects of open clinics can be observed in connection with any important medical center in the United States; and we all know that the best work is generally done in the open, while the worst is often done under cover.

In further elaboration of this idea, it should be known that on certain days—once a week, once a month, or at least several times a year—open clinics would be held in the hospitals and dispensaries, in medicine, surgery and the various special-

ties, and that men from the outlying towns could attend such as interested them most and be heartily welcome to all.

Such an arrangement would constitute a sort of perpetual post-graduate course in which practitioners, without expense or loss of time, could keep in touch with all medical and surgical activities.

This is not a new idea. It has been satisfactorily carried out in Toledo and is about to be tried in Chicago, and I have been told that it is pleasing to see how it stimulates the interest and ambition of both those who hold the clinics and those who attend them.

An undergraduate school is also an important part of a medical center. It must not only be a good school, however, but it must be the best kind of a good school, deserving of respect both at home and abroad. We have always had good schools in Denver, as far as our limitations permitted; but in recent years the requirements of medical education have so advanced that our deficiencies were beginning to be apparent.

Professional sentiment is now demanding fewer and better schools, and we have accordingly fallen into line by combining the two Colorado schools under the auspices of the State University. This should result in an institution worthy of the commendation of every one. Its faculty will contain much of the best professional talent in the state, which, as you know, is acknowledged to be of no inferior quality; and, furthermore, the school will be in a position to carry out its ideals without fear or favor—receiving and graduating deserving men only, and relentlessly refusing to honor those who are in any way unworthy.

Such a school will do more than merely turn out better doctors. It will help to elevate the morals of the profession, augment the true scientific spirit and lessen objectionable commercialism. It will do this by increasing the number of high-

class men in the community and infusing a new sense of responsibility in those who are already here.

To obtain the full efficiency of this new school and make it a credit to Colorado, it should have ample clinical facilities, and these are to be found in Denver only.

Hence every physician, realizing that he is working for himself, for the profession and for the community, should do everything in his power to aid the passage of a constitutional amendment permitting the University of Colorado to do part of its teaching in Denver. This should be regarded as an important duty which must not be neglected; because the reputation and success of every doctor in Colorado is influenced more or less by the standing of the state as a whole, and this standing will surely be increased by the existence of a first-class school.

Denver, the natural medical center of Colorado and the surrounding states, is well supplied with good hospitals. In the past they have been fully adequate, but the time for improvement has arrived. The old repugnance to hospitals has disappeared and instead of having to urge patients to enter them, our greatest difficulty is to find room for all the applicants. We should be careful, however, not to abuse this rising confidence. We should furnish the people with first-class, modern institutions, and they should be fire-proof. It should be self-evident that hospitals, of all buildings, should be safe from the dangers of fire, and yet how seldom is this the case. In brief, it is deserving of the strongest emphasis that Denver, a large and growing medical center, is in need of better hospitals; and by whomever they are built—by the State University, by religious denominations or by the private enterprise of physicians—they will immediately succeed and be of great benefit not only to patients and to local

physicians, but to the practitioners of the entire State.

In recent years a tendency has developed towards the establishment of hospitals in smaller towns. On the whole, this is a good movement, and many excellent institutions of this kind already exist in Colorado; but it should be understood that there is a limit to their usefulness, from a surgical standpoint at least. The equipment of such hospitals is often incomplete and the experience of its staff limited by its small range of diagnostic and operative experience; hence, there is danger that things will be attempted which should only be done in larger institutions that are better prepared to meet every emergency. Should disaster or failure result, it is bad for the small hospital, the local physicians and the profession of the State.

Another matter of importance is the maintenance of a good medical library. If we aspire to a high place in the professional world, we must contribute our share of literary work, and this cannot be done without an adequate library. We are an isolated community, and if ambitious men are to develop among us and increase our reputation at home and abroad they must have plenty of books and periodicals. But such men are often the very ones who cannot afford, at least in the beginnings of their careers, to travel or to send to distant places for the literature which they need, and, in addition, our general pride should not permit them to do so. .

We now have in Denver a large library conducted by the County Society. It is a good library, but it is far from being complete, and it is too limited in its usefulness. It should be enlarged as rapidly as possible and rendered more easily accessible to all the physicians of Colorado. I believe the State Society should take an interest in this library and appoint a com-

mittee for the purpose of devising means for increasing its usefulness.

I desire again to call attention to the high standing which the profession of Colorado has already attained among physicians elsewhere, and to the great desirability of retaining and improving this position—a proposition for which we should all individually and collectively strive. It is a source of satisfaction, in attending national gatherings, to observe the presence of so large a number of Colorado men, in spite of the distances which they have to travel, and to note their influence and standing. And it is also a matter of pride that so many of our men are members of the more select and exclusive national societies—such as the Association of American Physicians, the American Surgical Association, the Western Surgical Association, the American Neurological Association, the American Climatological Association, the American Orthopedic Association, the American Gastro-Enterological Association, the American Ophthalmological Society, the American Otological Society, the American Laryngological Association, etc.

The number of men who are thus assisting Colorado to gain outside recognition is at least 40 or 50, and we hope that before long it will be double this number, for nothing can help our reputation at home more than our achievements abroad.

Assuming that it would be of interest, in connection with this subject, to know the number of major operations performed in the hospitals of Denver in the course of a year, Dr. O. S. Fowler has kindly obtained these figures for me. They amount to nearly 6,000, a truly astonishing number for a city of this size.

Looking at the question from a strictly medical standpoint, three of our leading internists and consultants inform me that together they annually see nearly 1,300 patients from outside Denver, some 500 of

whom are from other states. Similar returns, I have no doubt, could be obtained from many other practitioners, if I had taken the trouble to make inquiry.

I venture to say that there are but few other cities with a showing like this. This is due not only to our climate and to the large extent of surrounding country of which we are the natural center, but also to the standing and reputation of our surgeons and our internists. In short, this vast amount of outside work shows the confidence already placed in Denver as a medical center.

In conclusion: In this brief address I have tried to emphasize—

(1) The advantages accruing to all the physicians of Colorado in having within their state a well-recognized medical center.

(2) That Denver has already done much to deserve this distinction, by the character and amount of its medical teaching and the achievements of its physicians.

(3) That Denver's efforts should be aided in every reasonable way by supporting its State Medical School and encouraging the literary and scientific ambitions of its professional workers.

(4) That the growth of Denver as a national medical center will materially benefit all the physicians of Colorado, by giving them a higher standing abroad and thus increasing their prestige at home.

I have been requested to call attention to the excellent work being done by the American Medical Association, through its *Journal*, and its laboratory, in the exposure of the nefarious methods of advertising quacks. This campaign has been undertaken in the interests of humanity and against those pretenders who live by deliberately defrauding the unfortunate.

It is of great importance that the laity, as well as the profession, should become familiar with this undertaking. This can not be done through medical journals, be-

cause non-professional men do not read them. Neither can it be accomplished through the daily press, owing to prejudice based upon the income from quack advertisements.

Apparently, the only method by which results can be obtained is for physicians themselves to take the matter vigorously in hand and distribute appropriate literature among their patients where it will do the most good. This being recognized by the officials of the American Medical Association, they have issued a supply of reprints of the articles on quackery which have appeared in the *Journal* from time to time. Any physician can obtain these pamphlets free of charge, by applying to the editor.

No educational campaign is more needed than this, and if only a portion of the physicians of the United States will enter into it there can be no doubt as to its success.

In this connection it should be remembered that the advertising fraternity has already organized, and has begun an attack upon the American Medical Association. The financial interests involved are such that nothing will be left undone, either offensively or defensively; hence it is of the greatest moment that the laity should have an intelligent understanding of the situation as soon as possible.

I have also been asked to say a word concerning the formation of an association of city and county health officers, to meet each year in connection with the State Society.

The questions of public health have become of such importance that an organization of this kind merely requires to be suggested in order to meet with universal approbation. It would facilitate the discussion and solution of many perplexing questions, besides promoting uniformity of action and the general diffusion of knowledge among widely-separated officials. I sincerely hope that such a society will be formed and receive the hearty support of everyone.

## INJURIES TO THE CORNEA.\*

BY MELVILLE BLACK, M. D.,  
DENVER, COLORADO.

This subject will be dealt with purely from a railroad standpoint. Of corneæ which have been injured by extensive penetrating wounds where the deeper structures have been injured we shall not speak, because there the corneal wound is of secondary importance.

A wound in the cornea which contains no foreign matter tends to heal kindly, providing the contiguous cutaneous surfaces are rendered clean and the eye closed in order to protect the wound. The exceptions to this are to be found in men who, considering the injury trivial, go on with their work. The patient experiences discomfort in his eye, but rubs it with his dirty hands for a day or two, when increased pain causes him to consult the nearest company physician. Another exception is in men who for some time have had "watery eyes," due to closed lachrymal passages. The poisonous germs which find abundant opportunity for growth in such passages will almost surely convert the simplest innocent corneal scratch into a sloughing ulcer or corneal abscess of the most virulent type. Such eyes are necessarily badly damaged or lost. This suggests that in the physical examination of new men the question should be asked, "Do your eyes water?" If so, the man should be sent to an oculist to have him determine if his lachrymal passages are patent. This can only be done by attempting to syringe through them. Too much stress can not be laid upon the fact that a man with lachrymal closure is a very dangerous risk for the Burlington Relief Department to carry.

I have long recognized that water glass injuries to the cornea usually do well. This is because the injury is sufficiently severe to cause the patient at once to seek medical

\*Read before the Denver meeting of Burlington R. R. surgeons, Sept. 9th, 1910.



attention. Also that an exploding water glass or oil gage is very hot, therefore sterile.

The management of a simple corneal wound (and in this instance, simple means a wound which has not penetrated and which contains no foreign substance), is very easy, providing no lachrymal disturbance exists and the patient has consulted us at once. Our first duty should be to wash the eyelids and adjacent skin as though preparing the eye for operation. The eyelashes should be carefully cleansed with pledgets of cotton squeezed out of  $\frac{1}{5000}$  bichloride. Washing out the conjunctival sac is not favored because the tears are superior to any fluid we can introduce for that purpose. Atropine should be instilled to dilate the pupil and put the eye at rest. The conjunctival sac should then be filled with a  $\frac{1}{3000}$  bichloride-vaseline and the eye bandaged. In twenty-four hours the eye should be exposed and examined to see that the wound is healing kindly. If so, atropine is again instilled, and the eye filled with the bichloride-vaseline and again bandaged. This line of treatment should be continued daily until the eye is free from congestion and no longer photophobic. The patient is then ready to return to his work. In dealing with an infected corneal wound, the same cleansing measures should be instituted, cocaine and atropine instilled, the corneal wound wiped clean with cotton wound on a toothpick, the eye filled with bichloride-vaseline ointment and bandaged. The patient should then be sent to the nearest company oculist. It should be the oculist's duty to determine whether or not the lachrymal passages are patent. If not, they should be cleaned out by syringing and finally a 25% solution of argyrol injected into them and the patient given a 25% solution argyrol to drop into his eye every hour. The oculist should curette the corneal wound and cauterize it with pure car-

bolic acid, the actual cautery, 35% nitric acid or 25% trichloroacetic acid. The eye should be closed with a patch and cotton, and the patient should be directed to change the cotton every time he instils the argyrol.

We have another important class of corneal injuries commonly known as foreign bodies on the cornea.

Generally speaking, a patient with a foreign body on his cornea does not seek medical advice until all his friends have attempted to remove it. Some corneæ are very tolerant and do not cause the patient pain for several days. We then find the cornea softened about the foreign body. If this be simply removed an ulcer remains which may spread or may undergo very slow resolution, causing the patient much inconvenience for several days, and healing with a permanent scar. Here again the patency of the lachrymal passages is of great importance. If they are closed they should be syringed out, argyrol should be injected and the patient given argyrol to drop in his eye every hour, otherwise the wound made by the foreign body will surely become infected and an extensive corneal ulcer or abscess result.

The oculist is much more inclined to regard a foreign body on the cornea as a wound of importance than the surgeon. This, probably, is because he sees the cases which have done badly. None of you would remove a rock of one-half to one inch in size from a man's leg without due aseptic precautions before and after its removal. The average sized foreign body on the cornea has the same proportionate size to the cornea as does a one-inch rock in the leg. It is situated in a structure much more important than the skin of a leg. A scar in the cornea is of great importance; it is of no importance on a leg. Why then should not the removal of a foreign body imbedded in the cornea be attended with every precaution against infection?

My practice in railroad men is first to cleanse thoroughly the skin about the eye and the eye lashes, then to drop in some cocaine. The cocaine tabloids made by Burroughs, Wellcome and Company are superior to solutions because they do not spoil as do solutions. After the foreign body has been picked out, the bed in which it lay should be delicately dug out until it is free from all softened, burned or discolored tissue. Most foreign bodies, particularly cinders, emery and iron, are hot when they strike the eye and in consequence they burn into the cornea, and leave behind a deposit of burned and oxidized tissue, which, if not removed, must slough away, thus affording a most suitable spot for infection. It is just as important to remove this bed in which the foreign body lies as to remove the foreign body itself, and it is usually the most difficult part of the operation. After this is done, the spot should be lightly wiped out with a cotton-wound toothpick dipped in pure lysol. The eye should then be filled with bichloride-vaseline and bandaged. The patient should report in twenty-four hours, when the eye should be examined and the wound touched with a 2% solution methylene blue or fluoresceine. If it is not healed it will stain blue or green in accordance with the stain used. If it stains, the eye should be again filled with bichloride-vaseline and bandaged. The patient should be examined again in twenty-four hours and the stain used. If the wound still stains, he should be given a 25% solution argyrol to drop in the eye every hour, and the eye closed with patch and cotton. He should never be discharged as long as the wound stains. In most cases the wound has healed at the end of the first twenty-four hours. If so, the case can be dismissed.

I am a firm believer in keeping all eyes closed where the cornea has been injured. Good men disagree on this point, especially after the removal of foreign bodies. Some believe that the wound is kept clean by the

brushing of the upper lid over it. I fail to see the good reasoning of this. An eye which is open and exposed to germs, and is being constantly wiped and rubbed by the patient is more likely to become infected than an eye which has been filled with bichloride-vaseline and bandaged. The process of repair goes on more smoothly with the lids closed than when the upper lid is sweeping every second over the wound. If the eye be bandaged the patient will go home and stay there, and if not, he probably will go everywhere but home.

Burns of the cornea are rarely confined to that structure and therefore do not come under the title of this paper. Electrical, steam, water and chemical burns almost always mean that the lids and the entire eye are burned. Our efforts in such cases consist in combating infection and in preventing adhesions between the lids and the eyeball. We do have burns of the cornea from metal which are purely corneal. Generally speaking, they are simple things to treat, providing the aseptic precautions already outlined in this paper be taken. Clean such eyes properly and fill them with bichloride-vaseline and close them with a bandage, and they heal very quickly. Solder burns are usually complicated, inasmuch as the drop of solder spreads out when it comes in contact with the moist cornea, and takes the shape of the eyeball. It clings to it; steam forms under it. The conjunctiva, both ocular and palpebral, is burned and adhesions between these two membranes are likely to result. No attempt will be made to deal further with the subject of burns, for it is extensive enough to be dealt with alone.

Finally, let me call your attention to the fact that cocaine is not a remedy and should never be used as such. The fact that it is a local anesthetic and temporarily relieves pain does not justify its use for this purpose. At best it only relieves pain a short time, as its effect is transient. It then

has to be used again and repeated at shorter intervals until it finally ceases to have any local anesthetic effect at all. In the meantime it has increased the congestion by paralyzing the vasomotor nerve control. It has done still more damage by causing extensive desquamation of the corneal epithelium, thus opening up more avenues of infection.

I am sure that I have seen several eyes extensively damaged from the use of cocaine placed in the hands of the patient. that need not have been damaged at all, had the eyes been cleansed and bandaged as already outlined.

For the relief of pain in the eyes from trauma nothing equals iced applications. The iced cloths must be changed every half minute and must not be allowed to lie on the eye and become warm. When they cease to give comfort they should be stopped. When the eye again feels feverish they can be started again. The patient's own feelings are a good guide as to the frequency and duration of their use. They not only give great comfort, but they reduce the temperature of the part to a point where germs do not thrive readily.

### LUMBAR AND RHACHI-ANÆSTHESIA.\*

By Z. VON DWORZAK, M. D.  
DENVER, COLORADO.

More than ten years have elapsed since Quincke's discovery of lumbar puncture was practically applied. At all events the priority of lumbar anesthesia belongs to the genial American neurologist Corning. This investigator started with the idea that if cocaine could be introduced in the neighborhood of the spinal cord it would be conducted into the cord itself and here show its specific action, namely anesthesia. Corning obtained anesthesia of the lower half of the body first by a paravertebral

and later by an interdural injection of cocaine, but he had no conception of the importance this method would have in surgery. He said: "Whether the method will ever find an application as a substitute for branches of surgery, further experience alone can show."

In the year 1899 and practically indetherisation in genito-urinary or other pendent of Corning, Bier stepped forth with a perfectly elaborated method, and it is incontestable that to him is due a form of analgesia adapted to practical use. This form of spinal anesthesia showed at first very surprising results, but in a short time it was found to have a difficult technique, uncertain results, and severe toxic symptoms. Also cases of death were observed and ascribed to cocaine.

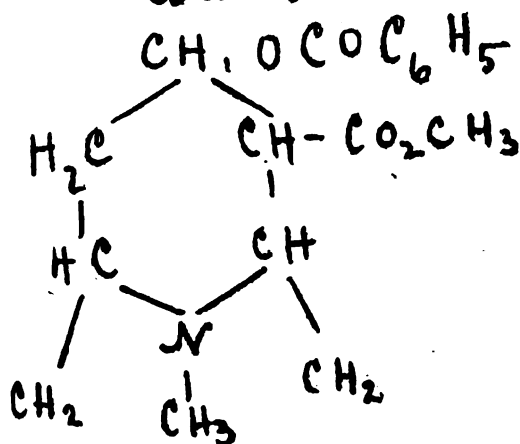
Eucaine and novocaine, which were discovered and recommended as substitutes, proved as little free from poisonous side-effects (collateral) as the cocaine itself. Thus far, therefore, we see that the endeavor to find drugs whose freedom from collateral toxic effects would permit their use in practice, had only resulted in disappointment. The desired end was attained by the French chemist, Fourneau, who in the year 1904 first introduced the anesthetic stovaine.

Stovaine is the hydrochlorate salt of the dimethyl-amino-benzoyl-dimethyl-ethyl-carbinol. Its production is both easy and cheap. Stovaine is closely related to cocaine and eucaine.

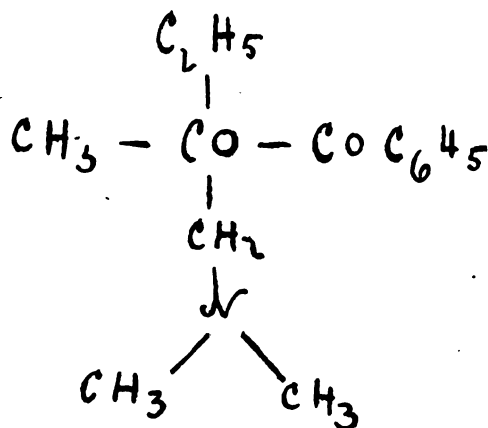
When we consider the formulas we find it remarkable that the carbon ring which we see both in the case of cocaine and eucaine, in the case of stovaine is not present. This proves Fourneau's theory that anesthesia is independent of the presence of a carbon ring. It is also noticeable that in the case of stovaine the N is bound with two methyls, while in the case of cocaine it is bound with only one.

\*Read before the Medical Society of the City and County of Denver, Feb. 1st, 1910.

Cocain



Stovaine



Stovaine is a white powder which in the same dose is less effective than cocaine, but inasmuch as it is only a third as poisonous this defect is more than counterbalanced by the greater quantity in which it can be used. Billou and Pouchet experimented with stovaine on animals; Chaput and Reclus, on men. The last was the first to apply spinal anesthesia to the human subject. Stovaine, unlike cocaine, produces no contraction of the blood vessels and therefore one does not fear brain anemia with its consequences, i. e., restlessness, weakness and collapse. Four to 6 cg. introduced into the subarachnoid space are sufficient to produce lumbar anesthesia. It is interest-

ing to observe how quickly the anesthesia extends. Normally it attains the umbilical region in from 4—5 minutes. I can remember cases in which in still shorter time it reached the costal arch. Speaking generally, we can say that, when the anesthesia is not complete in 8 minutes, it will not be complete at all.

The first symptom following the injection of stovaine is slowing of the pulse, due to the fact that the patient was excited previous to the operation, and later became calm, because of his freedom from pain. Stovaine does not influence the brain directly. Stovaine paralyzes the motor and sensory spinal roots, the roots of the sympathetic. It also has an influence on the medulla oblongata. The patient first feels formication in the limbs; the legs have the sensation of heaviness, and soon the patient is unable to move them. A motor paralysis takes place, the reflexes are lost—a sure sign of the success of the anesthesia. Hand in hand with these changes the anesthesia rapidly ascends. The patient lies with reddened cheeks and shows no excitement or headache; very seldom he complains of pains in the back. The state of anesthesia lasts 1—1½ hours, according to the quantity of the drug and to the susceptibility of the patient. In some cases it is shorter, in some longer; at all events it is long enough to perform the greater operations. In cases where the anesthesia appears to be not complete, a few drops of chloroform or ether are sufficient to lull the patient to sleep. In regard to the secondary phenomena, that of the postoperative period, I would mention, first, the vomiting, which befalls the patient in more than 25% of the cases, and which occurs partly during the operation and partly after. This vomiting is purely cerebral, caused by the irritation of the vagus center in the medulla oblongata, and recurs sometimes on the days following the operation.

The next symptom is the violent head-

ache, which for the most part is on the second day. This headache is localized in the forehead and occiput. It is very obstinate and is characteristically not influenced by any known remedy. Sometimes a paralysis of the abducens is observed, arising some days after the operation and disappearing very quickly. The only cause for this is the toxic affection of the nuclei from which it originates, the poison mixing with the cerebrospinal fluid and so coming in direct contact with them.

In regard to the very bad symptoms which appeared in the first years of lumbar-anesthesia it must be acknowledged that there was observed sometimes a spinal meningitis. In such cases the spinal fluid is turbid, the membrane of the spinal cord is no longer smooth and shining. The changes in the nerve cells are the same as those we see after the destruction of the axis cylinder. The great polygonal motor cells of the anterior spinal horns are enlarged and rounded. The Nissl granula show a clear change, for a short time, and are then re-established completely.

The cases of death caused by poisoning are now almost excluded. I remember only one case, namely one in which after the injection of 6 cg. stovaine, dyspnoea, cyanosis, a small pulse and disturbance of consciousness took place, and the patient was only saved by a quick injection of 20% camphor solution and artificial respiration. Death occurs after an interval of 10 minutes to some hours, with paralysis of the limbs, general clonic and tonic convulsions, dilatation of the blood vessels, slow pulse and rapid fall of temperature, thus presenting a contrast to cocaine.

The question now before us is: When we may and when we may not use lumbar-anesthesia.

It does excellent service in the following cases:

All operations on the lower extremities, bones and soft parts; stretching of the sci-

atic nerves, resection of the hip joint, rectal and genito-urinary operations, hernias and laparotomies. In the following cases in gynæcology and obstetrics: Ovariectomy, operations for salpingitis, Porro's operation, extra uterine pregnancy, myomectomy, the plastic operations on the vagina and rectum, caesarian section, symphysiotomy and pubotomy, version and forceps.

It is contra-indicated in cases of malformation of the spine, diseases of the brain and spinal cord, arteriosclerosis and diabetes, hysteria, and in purulent septic diseases.

In the literature of the spinal anesthesia three deaths are mentioned, which are rightly ascribed to the use of this method in those suffering with arteriosclerosis. These are: Birnbaum: Muenchner Med. Wochensch. No. 9, 1908; Ellenbrook: Klin. Wochensch. Jena, 1907; Weber J. Med. Wochensch. Göttingen, 1907.

Of these, the most interesting is the last mentioned case. The patient, a woman 52 years old, was operated on by Porro's method for cancer uteri. On the day after the operation signs of a cerebral affection appeared: numbness, restlessness, stiff neck, Babinski's phenomenon on the one side of the body and beginning choked disk. The combined gross and microscopic examination at post-mortem showed diffuse arterio-sclerosis, obliteration of the vascular orifices and signs of a recent perivascular oedema of the tissues; therefore we see that an acute cerebral disturbance was added to the chronic one already present. By the reflex action of the stovaine on the circulation the blood pressure had been raised beyond the point the sclerosed vessels could accommodate. Hence the oedema of the brain tissue, which pressed on all the surrounding tissues, closing the lumen of the various vessels and ending in the typical picture of death by brain pressure.

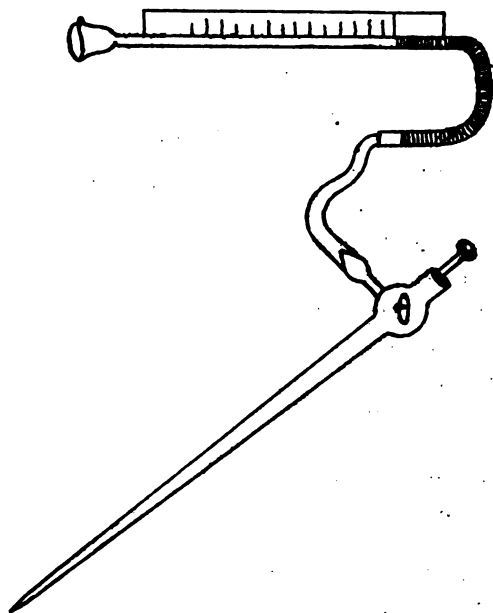
In abdominal surgery this method is recommended only when narcosis is contra-

indicated, for the reason that narcosis possesses the advantage of producing a complete relaxation of the abdominal walls.

The technique of the lumbar anesthesia:

After disinfection of the field of operation and the sacral region the patient is seated on the edge of the table with knees spread apart, pendant arms, head and body bent forward. This causes a gaping of the vertebrae. Then we thrust in the Bier's needle furnished with a mandarin. The best place to introduce the needle is the third intervertebral space. It is sufficiently distant from the medullary conus, and the spaces between the bundles of the cauda equina are here large enough. We find the right point when we connect the crests of the ilium by a straight line. Directly under this is the spinal process of the fourth lumbar vertebra. In men of great muscular development it is necessary to insert the needle 6 to 9 cm.; the usual distance is 4 to 6 cm. It is very easy to make the mistake of not going deep enough in the first cases. We can feel distinctly the passage of the needle into the sheath of the dura mater. The degree of pain produced by the spinal anesthesia varies greatly. When we do not at once enter the dural sack it is greater, but never violent. The injection of the liquid itself never causes pain. If the needle be correctly placed in the dural sack we remove the mandarin at once and the cerebrospinal fluid flows off immediately. I recommend measuring the pressure of the out-flowing fluid, and for this use the following instrument: A Bier's needle, which is a special apparatus in which the piercing instrument (known as the mandarin) projects in advance of the hollow metal tube. To this apparatus an ordinary manometer is attached, but with two valves so arranged that the outcoming fluid may at will be directed to the manometer or to the usual exit. After piercing the dural sack with the mandarin, we remove it and the fluid flows out. If this

fluid be bloody we know we have entered a venous plexus by mistake. We then insert the needle in another direction. The fluid is turned by the valve into the manometer, and we learn the pressure.



Only when the fluid is clear and flows off in a rapid stream, may we make the injection. The syringe is then prepared, the valve turned back, and the syringe filled with the spinal fluid by aspiration. The stovaine is mixed with the fluid and this mixture slowly injected into the dural sack. Then the needle is quickly taken out and the skin wound is closed with a plaster. The patient is then put in laparotomy position and in four to eight minutes a complete anesthesia of the inferior body takes place. The perineal region is first insensible, then the legs and the region upwards from the symphysis. All the lower reflexes are lost. Consciousness is completely preserved, and the patients can follow with open eyes all movements of the surgeons. It is therefore necessary to keep silence in all operations performed under lumbar anesthesia. Personally, I consider it wise to have the patient keep his face covered, that he may not see what is being performed. And here is

the objection to spinal anesthesia. This method removes the physical pain but not the mental. The nervous tension of the patient, the many sensory impulses may very easily cause heart complications, nervous excitement and weakness. On this account we can safely say that general anesthesia will never lose its preëminence.

After the operation the patient may be given hot black coffee, or milk, bouillon, or a light breakfast. Four or five hours after the injection demonstrable sensibility returns to the extremities, the reflexes become normal and the patient feels more or less well according to circumstances.

My own experience is founded on more than 500 cases whom I observed in Dr. Jacklin's sanatorium in Pilsen, in the winters of 1907 and 1908. The speciality of this sanatorium is Basini's radical operation of hernia. More than a thousand herniotomies are performed yearly, mostly under lumbar anesthesia and with the best effect. The patients were from all classes and of all ages, and it is an interesting fact that we gained the impression that the older patients showed a more marked preference for the lumbar anesthesia than the young ones. We used from 4—8 cg. of stovaine in a solution of acacia gum and added a few drops of adrenalin "Clin." This mucilaginous vehicle is to be recommended because it hinders the too quick absorption of the stovaine. In this connection I would call attention to the interesting fact that in this sanatorium fine pure gold wire is used exclusively for the sutures and Dr. Jacklin ascribes to this circumstance alone the fact that all wounds heal by primary intention.

This method of spinal anesthesia has now found its way into general use, but it was formerly confined to operations in the region extending downwards from the diaphragma. Prof. Thomas Jonnescu of Bukarest has published a dissertation at the

congress of Brussels in 1908 upon the possibility of producing anesthesia in the upper part of the body by injecting stovaine into the upper part of the subarachnoid space.

For this purpose he proceeded as follows: The patient sits with his head pressed to the sternum. Inasmuch as the spinous processes of the second and third dorsal vertebrae are more prominent, both to sight and touch, than the others, we find we can easily locate with our left index finger the space between them. We accordingly introduce the Bier's needle at this point, holding it parallel to the spinous process of the second thoracic vertebra. and with it pierce the subarachnoid space. The fluid flows out in drops only because of the weak pressure. It is imperative that there be only a few drops, because otherwise weakness appears in the patient, and the sudden diminution in the quantity of the spinal fluid allows the injected anesthetic to spread with dangerous rapidity. The drug is then injected slowly to prevent a too rapid influence on the spinal cord. We next put the patient in the dorsal position, keeping the head horizontal in case the operation is to be performed on the face or head, but with erected head in case the operation is to be on the neck. while if it is to be on the thorax or superior extremities we put the patient first in the sitting position with neck, head and thorax bent forwards; then in the dorsal position.

For the injection Jonnescu recommended stovaine solution, to which he adds some strychnine, 1 to 3 cg. stovaine, according to the age of the patient, is introduced into a sterilized glass tube and mixed with 1 ccm. of a 1% solution of strychnine.

The anesthesia is complete two or three minutes after the injection. The incapacity of the patient to move the upper part of his body, which we have reduced to a condition of absolute flaccidity, is one of the great advantages of this method, as it

prevents any possible interference by an unexpected movement, with the work of the surgeon. The pulse is normal, sometimes quicker, but always full.

The redness of the face, nausea, vomiting and sweating seen after the injection of a pure stovaine solution never occur in rhachianesthesia, and these facts demonstrate the happy effects of the strychnine. The strychnine counterbalances the paralyzing effect of the stovaine in the medulla oblongata. The anesthesia continues from 1 to 1½ hours, but we can extend it at will by another injection.

Jonnesco in his last paper, that of December, 1909, makes statistical mention of 150 operations in dorsal anesthesia, namely: mastoid operations, resection of the maxillary bones, cancer of the tongue, hare lip, extirpation of struma, tracheotomy, total extirpation of the larynx, cancer of the breast, resection of the ribs, etc.

It of course follows that this stovaine-strychnine method can also be used in lumbar anesthesia. The dose of stovaine is then 6 to 10 cg. We can also use it in heart diseases, as myocarditis, aortic insufficiency and mitral stenosis, in chronic lung, kidney and liver diseases as well as in infectious ones.

There are certain circumstances which are capable of injuring the effect of this method. I will mention the following:

(1) If we do not pierce deep enough and so inject the solution between the dura and the bone. The identical effect may be reached even if we have already pierced into the dural sack by withdrawing the cannula too much.

(2) If we take too long a time to aspirate, layers may occur whereby the stovaine is separated from the true spinal fluid. Also an unusual amount of bleeding may hinder the stovaine.

(3) The syringe, particularly the plunger, may contain a trace of soda. Experience shows that even a vestige of soda

renders stovaine inactive and we are forced after boiling the syringe to moisten frequently with hot water.

(4) The personal non-susceptibility of the patient, who does not promptly react to the drug.

In conclusion: Spinal anesthesia, both the lumbar and dorsal, can be substituted for the methods by inhalation or by local application.

The discovery of stovaine has raised the spinal anesthesia to a yet higher pinnacle and brought about an important reform in the method of narcosis.

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## Progress of Medicine

### INTERNAL MEDICINE

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#### NEW TEST FOR CANCER OF THE STOMACH.

J. W. Weinstein, working under the auspices of the George Crocker special research fund in the laboratory of biological chemistry of Columbia University (*Jour. A. M. A.*, Sept. 24, 1910), confirms the work of Neubauer and Fisher, and proposes what appears to be an improvement upon their method. Neubauer and Fisher published their report in the *Deutsch. Arch. f. klin. Med.*, 1909, xcvi., 499, the gist of which is as follows:

Cancerous tumors elaborate an enzyme which is capable of converting proteins as well as simple peptids into amino-acids. Although benign tumors as well as other somatic tissues possess this power to a very slight degree, it is not sufficient to interfere with the practical workings of the test. In a normal stomach the digestion of proteins is never carried beyond the polypeptid or dipeptid stage. Consequently if amino-acids are found in the stomach contents, it is assumed that this enzyme (which is secreted by the cancer) must have been present.

They used the dipeptid glycyltryptophan for making their test. This is added to the stomach contents, and the mixture is placed in the thermostat for about twenty-four hours. At the end of that time a test is made for tryptophan, and if it is found, the presence of cancer is assumed.

Weinstein finds that the glycyltryptophan is superfluous, as the tryptophan reaction may be obtained without it. The reason which he gives is as follows: The

enzyme secreted by the cancer is potent enough to hydrolyze protein, as well as dipeptid into amino-acids. This simplifies the test very much, as the modified test (tryptophan test) is carried out as follows: Four or five hours after regular dinner, some stomach contents are secured, filtered, and tested with bromine water for tryptophan; if present, the reaction is positive; if absent, some of the filtrate is transferred to a stoppered bottle, and treated with a little toluol or, better still, without a preservative, is put into the thermostat and tested again for tryptophan in from 24 to 48 hours. It is found that even in positive cases the reaction is occasionally absent for a period of time. Therefore it is recommended that three or four consecutive tests be made before a negative opinion is given.

O. M. G.

#### A PRELIMINARY REPORT ON THE DIAGNOSTIC VALUE OF THE INTRACUTANEOUS TUBERCULIN TEST.

Evans and Whitney (Arch. of Inter. Med., Sept., 1910), following Mantoux and Roux in France, and Römer and Mendel in Germany, have used this method with very satisfactory results. The technic is as follows:

With a hypodermic syringe armed with a fine needle, one injects into the upper layers of the cutis, preferably in the upper part of the back, a minimum amount of a 1 to 5000 solution of old tuberculin, (1/100 mg.). A very small wheal, about the size of the head of a pin, is thus produced. The absence of this wheal indicates that the fluid has been injected too deeply. The reaction, if positive, is of extreme exactness. It appears within a few hours in the form of infiltration, merely palpable or already visible, of red or white color. After twenty-four hours, the infiltration has increased, is pink or light red, and occasionally edematous with an erythematous zone surrounding it. In forty-eight hours, the

infiltration has reached its climax. The central papule and peripheral area have become more intense, and occasionally the two areas are separated by an intermediate zone which makes the picture even more characteristic. The extent of the infiltration is seldom less than the size of a ten cent piece, and often more than that of a fifty cent piece. With the peripheral area included, it may attain the size of the surface of the hand. The reaction gradually subsides, but there is frequently visible for a long time a pigmented, dark red spot, with sometimes a branny scaling of the skin. There is neither febrile nor general reaction. A pseudo-reaction produced by trauma may be confusing for a time, but this will disappear within forty-eight hours.

The original authors observed a remarkable parallelism between this test and the subcutaneous test. Evans and Whitney recently applied this test synchronously with the cutaneous test in a series of forty-two patients. Twenty-three reacted to both tests. Ten were reactionless to both tests. Nine reacted to the intracutaneous, but were reactionless to the cutaneous test, while there was none that reacted to the cutaneous and yet was reactionless to the intracutaneous test. Of the 23 patients reacting to both tests, ten had active pulmonary tuberculosis, three had tuberculous adenitis. In eight who were not demonstrably tuberculous, there were cases of active tuberculosis in the immediate family. While of the two classified as non-tuberculous, one possessed an obstinate cough and the other had previously been pronounced tuberculous by a physician.

Of ten who were reactionless to both tests, two had pulmonary tuberculosis, one of them in an arrested stage, and the other active. This patient was a child whose entire family represented a type of very low resistance, in which it is not un-

common to fail to get a reaction. Five of this class were non-tuberculous.

The authors conclude that the test is more delicate than the cutaneous tests, and fully as delicate as the subcutaneous test, while free from the disadvantage of severe general and focal reactions which the latter possess.

O. M. G.

#### TRICHINELLA FOUND IN BLOOD FROM EAR PUNCTURE.

Last year Herrick and Janeway reported the finding of trichinellae in blood taken from the arm veins of a patient suffering from trichinosis. Four embryos were found in 10 cc. of blood. In May, 1910, Mercur and Barach found two embryos in 10 cc. of blood. Herrick and Janeway suggest a possibility of finding them in blood taken from the finger, but so far no one has reported finding them by this means.

Grosvenor Cross (Arch. of Inter. Med., Sept., 1910), reports a case in which on account of the inability to get a needle into a vein, an ordinary puncture in the lobe of the ear was made and 1 cc. of blood squeezed out by a continued effort. This was laked to 12 cc. of 3% acetic acid, centrifuged, and the sediment examined under lower power. Three trichinella were found by the photomicrograph, one of which accompanies the report. However, repeated examinations of the blood on succeeding days failed to show any further organisms.

The successful examinations were made on the eighth day after the first clinical symptom. Cross is in accord with other authorities in his inability to find them in the stools. He suggests that it may be possible to find them easier in the mixed arterial and venous blood than in the venous blood which has filtered through the capillaries.

O. M. G.

#### SURGERY

Edited by

Haskell M. Cohen, M.D.  
Denver, Colo.

F. W. Bancroft, M.D.  
Denver, Colo.

#### PERMANENT COLOSTOMY.

Howard Lilienthal (Annals Surg., Sept., 1910), has during the past eight years completed an operation which obviates the discomfort and filthiness of colostomy. The sigmoid is brought through the rectus muscle, twisted on its axis, and firmly secured in this position. After a month the patient has absolute control of the bowels and can even hold a considerable quantity of fluid injected into the colon. The operation has been tested many times and the patients followed up. For technical detail the original article should be read.

#### THE PROPOSED FISTULO-ENTEROSTOMY OF VON STUBENRAUCH.

Sutton (Annals Surg., Sept., 1910), reports the first case in which this procedure has been used on a human being. The procedure consists in using a diverted segment of gut as a canal to carry the discharge from a biliary fistula back into the intestinal tract. A loop of ileum about eight feet from the cecum was made use of in this instance but failed to accomplish the desired result, a fecal fistula resulting. He concludes that while the procedure is feasible as a problem in human architecture, physiologically it is a failure.

H. M. C.

#### MYELOMA OF THE LONG BONES.

Frank S. Mathews (Annals of Surgery, Sept., 1910), presents a fairly new conception of what has formerly been called "giant cell medullary sarcoma." Microscopically these tumors present: (1) a very vascular spindle-celled stroma; (2) a very free vascular supply; (3) the giant cells. These giant cells are very numerous and

Mathews suggests that they may be closely related to the osteoclasts. He considers that it is a tumor resembling the red marrow of young bone, characterized by great vascularity. Bloodgood has always claimed that this form is benign, although he classifies it as a giant cell sarcoma.

Clinically it selects most often the upper end of the tibia, less frequently the lower end of the radius. - Then comes the femur, mandible, humerus, luna, and clavicle in a series of diminishing frequency.

The tumor usually begins in the medulla of the diaphysis near the epiphyseal line. Its growth is expansile, leading to the absorption of the surrounding bone—it does not form metastases, and does not recur on complete removal.

The patients are usually under twenty-five years of age. There is rarely any history of trauma. As the tumor expands, bone is destroyed, and new bone formed by the periosteum. When the tumor reaches the periosteum we find thin scales of bone being formed, which give the egg-shell crackling.

The x-ray is very helpful in diagnosis. It shows tumor of the medullary cavity of the diaphysis—which does not penetrate the cartilage, although the epiphysis may be involved. It often bulges the periosteum but rarely invades it.

The treatment is the removal of the growth. Curettage is often sufficient. If the tumor has progressed far enough so that its removal interferes with the function of the bone, then amputation is necessary.

Matthews thinks it important to call this a myeloma, because it is benign, while sarcoma is malignant, and as long as it is classified under sarcoma the general surgeon will treat it radically, while in reality conservative treatment is required.

F. W. B.

## GYNECOLOGY AND OBSTETRICS

Edited by  
C. B. Ingraham, M.D.,  
Denver, Colo.

### RETROVERSION.

H. W. Baker (Boston Med. and Surg. Jour., Sept. 2, 1909), gives the end results of the various operations for retroversion of the uterus, obtained at the Free Hospital for Women in Boston:

Ventral suspension or fixation: operations, 213; per cent. recurrences, 9.

Internal shortening of the round ligaments: operations, 35; per cent. recurrences, 31.

Alexander's external shortening of the round ligaments: operations, 191; per cent. recurrences, 12.

Mayo's modification of Gilliam's internal shortening of the round ligaments: operations, 59; per cent. recurrences, 0.

Internal shortening has a high per cent. of recurrences. The Alexander operation is limited to those patients without pelvic adhesions, while ventral fixation is not applicable to those in the childbearing age. Mayo's modification of the Gilliam operation gives perfect results, holds the uterus by its normal supports and gives no after complications.

The description of the operation is given as follows: Through a median incision the uterus is brought into view, and the round ligaments grasped at the elected point, generally about  $1\frac{1}{2}$  inches on either side of the uterus. A pair of curved Kelly clamps is passed with curved surface next to the facia, above the rectus muscles, to the internal ring, where the clamp is turned, point directed down, passed through the ring out along the round ligament, underneath the peritoneum to the place of election marked. Here the peritoneum is broken through, the round ligament grasped, the snap removed and the clamp pulled back, inverting the ligament on itself to the abdominal incision. When this has

been repeated on the other side, the two ligaments are sutured together and the incision closed.

C. B. I.

#### EARLY SERO-DIAGNOSIS OF PREGNANCY.

G. Fieux and P. Mauriac (*Ann. de Gynec. et d'Obstet.*, Feb., 1910), claim to have demonstrated a toxic action of the chorionic villi which will produce an antibody, revealed by the action of the complement in the hemolytic test.

The authors apply the hemolytic test with an antigen made from villous masses derived from a two months' human ovum, taken from a patient suffering with pernicious vomiting.

Fifty-five pregnant women were tested with positive results in every case between the second and fourth months of gestation, but the test was negative in those under one month and over four. It was also negative in ten non-pregnant women.

By the authors it is claimed that there exists an actual villous intoxication with a biological reaction permitting a sero-diagnosis of pregnancy between the second and third month of gestation.

C. B. I.

#### THE DURATION OF PREGNANCY, WITH A NEW RULE FOR ITS ESTIMATION.

Ellice McDonald (*American Journal of Medical Sciences*, Sept., 1910), states that the duration of human pregnancy is a question which has been debated by medical men of all ages. The estimation of the duration from the last menstruation allows an error of at least three weeks. The duration of human pregnancy varies, and may be prolonged in a certain percentage of cases.

Winckel has accepted six cases as authentically proved, prolonged to 310, 311, 312, 324, 336 cases with children weighing from 5,770 to 7,470 grams. It is generally conceded that the children of prolonged

pregnancy are remarkable for their large size, and it is also believed that a proportion of over-weight children are carried for more than the average time. It is true that large infants may result from short pregnancies, but it is more common that they are heavy if the pregnancy lasts longer than 280 days. This was the result in 71.8% of Winckel's series of 1,778 cases.

The influence of quiet and rest also explains the increased size of children with those mothers accustomed to luxury and home influences. Those who have fatiguing work to do usually have children of lighter weight. Another artificial cause of prolonged pregnancy is the performance of the operation of ventrofixation of the uterus. It appears that the pains come on and pass off after this operation several weeks before birth actually occurs.

These various durations of pregnancy make it difficult to prognosticate the day of labor, and since the attempt to estimate the duration of pregnancy by the number of days is inexact, it might be well to attempt to estimate it from the size of the foetus, for, if the foetus may be measured and the average size is known, the day of labor will be when the foetus arrives at the average size.

Dr. McDonald has evolved a rule which is dependent upon the height of the fundus uteri above the symphysis. The height of the fundus is dependent upon occipitococcygeal measurement of the child, which varies in direct proportion to the weight, as does the length. The rule is as follows:

The duration of pregnancy in lunar months is equal to the height of the uterus in cm. divided by 3.5, dependent upon the more or less regular growth of the uterus of 3.5 cm. each month of four weeks, and is very exact after the sixth month. Measurement is taken with the patient lying flat; one end of the tape is placed at the upper border of the symphysis, while the other is held by the thumb into the palm

of the hand with the fingers of the upper hand held at right angles with the fundus of the uterus; the tape follows the contour of the uterus save at the last dip. The method gives satisfactory results, and when the uterus arrives at the height of 35 cm. the foetus is at a weight of 3,300 grams, or average size. For every cm. of height above this measurement approximately 200 grams should be added to the weight of the foetus.

Hydramnios sometimes causes small error, and multiparae with lax abdominal walls and thin uteri should be supported at the sides. The author states that the so-called sinking of the foetus in the last two weeks of pregnancy causes but little error, and when the fundal measurement is at or near 35 cm. does not hesitate to induce labor, knowing that the foetus is of normal size.

C. B. I.

#### OPHTHALMOLOGY

Edited by

E. W. Stevens, M.D.,  
Denver, Colo.

#### OPTIC NEURITIS IN CHLOROSIS.

Dr. W. C. Posey (Archives of Ophthalmology, Sept., 1909), reports an example of this complication of chlorosis. A Jewish girl, aged 21, was examined at the Wills Eye Hospital, and found to have fully developed optic neuritis with unusual congestion of the veins. The vision in the right eye was reduced to counting fingers at one foot. The corrected vision of the left eyes was 6/12. An examination of the blood gave: hemoglobin, 60%; red cells, 4,790,000; white cells, 11,100. A diagnosis of chlorosis with slight mitral stenosis was made.

A week later, after appropriate treatment of the chlorosis, the ocular condition had greatly improved.

Cases of this kind can very easily be confused with brain tumors, for the optic

neuritis may be accompanied by severe headache, vertigo, vomiting and convulsions.

#### THE ETIOLOGY OF IRITIS.

While the diagnosis of iritis is comparatively easy, the determination of its etiology is often difficult, but usually essential to a rational treatment.

Campbell, of London (British Medical Journal, July 23, 1910), gives the following as causes of iritis according to his observations: syphilis, 70%; gonorrhoea, 20%; oro-alimentary, uterine and tubal infection, 9%; tuberculosis, 1%.

Campbell states that bilateral iritis is always syphilitic.

In this connection, the article by Jennings and Hill (Ophthalmology, October, 1909), on the etiology of iritis, is of interest. These authors examined the records of 500 cases of iritis, treated at the Wills Eye Hospital, Philadelphia, and found that 25.4% of all cases were recorded as "rheumatic" and only 5.2% were due to gonorrhoea.

An article by Beaumont, of Baltimore, on this subject, was abstracted in these columns a short time ago. Beaumont holds the extreme view that most of the cases classed as rheumatic are really gonorrheal in nature. The reviewer cannot help feeling that the statistics from the Wills Hospital err in an opposite sense. The gonorrheal etiology of iritis is no doubt often overlooked, the word "rheumatism" being capable of very wide interpretations.

Other causes given by Jennings and Hill are: influenza, 1.4%; exposure, 1.4%; tuberculosis, 1.2%. They make no mention of autointoxication, which is generally recognized as a most important factor in uveal inflammation, whether it be due to an oral or a gastro-intestinal sepsis.

Risley (Journal A. M. A., July 16, 1910), believes that more than 60% of all cases of iritis applying for treatment are syphilitic.

On the other hand, Claud Worth, of London (*British Medical Journal*, Aug. 13, 1910), has found that, in private practice, syphilis is a cause of iritis in less than 30% of all cases. In more than one-half of Worth's cases the cause was septic intoxication, e. g., constipation, decayed teeth, etc.

E. W. S.

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### DERMATOLOGY

Edited by

A. J. Markley, M.D.,  
Denver, Colo.

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#### FIRST TRIALS OF "606" IN AMERICA.

M. S. Kakels (*Medical Record*, Sept. 24, 1910), reports the use of "606" in two cases of severe syphilis which had resisted long-continued and energetic treatment by the ordinary drugs. The requirements of Ehrlich as to the administration and indications for the preparation were strictly followed; that is, its use only in syphilitics free from organic lesions of other origin than syphilis, and in whom the optic nerves are intact; also only in patients under hospital surveillance.

Case I. Infection in March, 1907, followed by constant treatment with mercurial injections; admitted to hospital on account of acute abdominal condition, demonstrated by laparotomy to be inseparable gumma of liver. Wassermann reaction positive. On Sept. 4, the patient was given subcutaneous injection of 0.3 grm. 606. No local reaction followed, and only slight pain. Wassermann reaction rapidly diminished in intensity and the gummatous mass rapidly decreased in size.

Case II. Infection June, 1907, followed by all evidences of malignant syphilis. Constant treatment had little or no effect. Condition was so grave that death was expected within a few weeks. Sept. 7, the patient was given injection of 0.3 grm. 606. Little pain followed but considerable local

swelling. On second day marked improvement in many of the ulcerations was apparent, and no further destruction of tissue. On Sept. 14, an astonishing difference is to be seen. Ulcerations and pustules have disappeared, gumma on the nose is filled with healthy granulations; a large, deep and undermined ulcer over the malleolus is granulating and healing over; the face is clean, and the patient is cheerful and happy. A truly marvelous and life-saving result!

Nichols and Fordyce (*J. A. M. A.*, Oct. 1, 1910), report 14 cases in which 606 was used, the first two of which were given doses admittedly too small and without satisfactory result. In the remaining 12 cases the results were exceedingly satisfactory and striking, all being apparently cured by the one injection.

These reports differ in no way from previous ones detailing the German experiences, yet they are much nearer home and for that reason alone are more impressive.

American clinicians, too, are much more inclined to be conservative and there is a tendency to wait further trial and the possible development of injurious after-effects before accepting this discovery with the enthusiasm which heralded its announcement in Germany.

A. J. M.

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#### USE OF HUMAN FAT IN SKIN PROSTHESIS.

Holländer (*Muench. Med. Woch.*, Aug. 23, 1910), reports the case of a girl of 21 whose face and neck became greatly emaciated, although the rest of the body was normal. He restored the contour of the affected parts by the subcutaneous injection of a mixture of equal parts of human fat and tallow.

As in paraffine prosthesis, the fat and tallow are ultimately absorbed, leaving a framework of organized connected tissue.

A. J. M.

**DR. CAREY K. FLEMING.**

By the death of Dr. Carey K. Fleming at his home in Denver on the morning of the 24th of September, 1910, the medical profession of Colorado lost one of its ablest and most beloved members.

Dr. Fleming was at the height of his activities and usefulness, and his death is most keenly felt in a very wide circle of friends. Modest and unassuming, gentle and considerate, he was learned in his profession, a wise counselor and able surgeon, upright in life, and held the confidence, love and respect of his professional colleagues and patients alike. Seldom is the profession called upon to pay tribute to the memory of a man of such high and noble character, a man so strong and true in all the varied relations of life. COLORADO MEDICINE cannot find fitting words to express its sense of loss, and can simply add its testimony to that of his devoted friends and join them in mourning and in sympathy with his family.

Dr. Fleming was born October 19, 1864, and in 1886 received his M.D. degree from the Medical Department of the Northwestern University, Chicago. Later he came to Colorado and in the early nineties joined the faculty of the Gross Medical College, teaching gynecology. He continued his connection with this school as professor of gynecology and one of its trustees until the combination which formed the Denver and Gross College of Medicine, in which institution he held the same positions until his death. He was honored by the profession by election to high offices of trust, among which were the presidency of the Denver City and County Medical Society, the Clinical and Pathological Society, and the Rocky Mountain Interstate Medical Association. He was a member of the American Medical Association and many other societies. His death came suddenly a few hours after an attack of apoplexy, and

while not altogether unexpected it came as a severe shock to both family and friends. We mourn the loss of a professional friend and brother.

Whereas, Death has removed from our midst Dr. Carey Kennedy Fleming, an honored member and ex-president of our Society, we, the members of the Medical Society of the City and County of Denver, in special session assembled, wish to give public expression of the love and respect in which he was held by the Society, and its sense of the great loss which the Society has sustained by his death.

Dr. Fleming lived and worked for twenty-one years in Denver, during a period when the stress of business and professional activity showed every man's worth. Though he was always in the advance guard of the forces striving for the betterment of his profession, his was one of the rare characters which welded the love of friends but did not arouse the enmity of opponents. He was unselfish; he was devoted to the welfare of others; he fulfilled his duties with modest forgetfulness of his own aggrandizement. He won esteem and affection where these are hard to achieve. The members of the Medical Society of the City and County of Denver unite in deploring their untimely loss.

HENRY SEWALL,  
C. B. LYMAN,  
ROBERT LEVY,

Committee.

Denver, September 24, 1910.

C. B. VAN ZANT, President.

E. W. LAZELLE, Secretary.

At a special meeting of the faculty of the Denver and Gross College of Medicine held September 24, 1910, the following resolution was unanimously adopted:

Resolved, That it is with the deepest sorrow that the faculty of the Denver and Gross College of Medicine learns of the sudden and untimely death of Dr. Carey K. Fleming, so long one of its most efficient officers and teachers.

In his capacity of professor of gynecology and trustee he was ever faithful to the trust imposed upon him, and commanded the love, honor and respect of his colleagues and students, and in the death of Dr. Fleming this college has suffered an irreparable loss.

The Denver and Gross College of Medicine will ever cherish and esteem the memory of Dr. Fleming, and its faculty collectively and individually extends to his wife and family its most sincere condolence and sympathy.

WALTER A. JAYNE,  
ROBERT LEVY,

For the Denver and Gross College of Medicine.

G. H. STOVER, Dean.

F. C. BUCHTEL, Secretary.



Whereas, God in His infinite wisdom has removed from the scene of his activities among us our faithful friend and fellow worker, Carey K. Fleming, be it therefore

Resolved, That we, the staff of Mercy Hospital sadly and sorrowfully bow to the Supreme decree, and with heavy hearts gather the fragrant remembrances of his life among us. We deplore his untimely death, for he leaves us in the full strength of his powers of body and mind, this prince among men, big of heart and brain, steadfast in friendship, skilled to a large degree in his chosen profession. With tender touch and smiling face he moved among his patients ministering unto their ills, and with tact and gentle manner winning them back to life and health. Modest, unassuming, retiring, we could not but love him, yet he gave to the world unstintingly the best of his life. The influence of his life will not pass with his going, it will be with us always, and with hearts mellowed by our remembrances of him as we knew him in the years past, we who are left will be actuated to greater things, inspired by the example which he has bequeathed us as our heritage.

Resolved, That we tender his sorrowing wife and devoted mother our deepest sympathy. We would fain lessen their bereavement by recalling to their minds the beneficent effects of his life among the sick; his big-hearted fellowship for all his fellow men, his charitableness toward all. All who knew him were his friends, none his enemies.

And so we blazon his name deep in our memories until we too depart.

Resolved, That we cause these resolutions to be printed in the daily press, also spread on the records of Mercy Hospital, and an engrossed copy of the same be presented to the family of our late colleague.

#### THE STAFF OF MERCY HOSPITAL,

By the Executive Board,

L. E. LEMEN, President. C. E. COOPER,  
A. H. WILLIAMS, E. P. HEISHEY,  
F. W. KENNEY, Secretary.

Denver, Colo., September 26, 1910.

Mrs. Carey K. Fleming, Denver, Colorado:

Dear Mrs. Fleming—The Alumni of the Denver and Gross Medical College desire, through us, to extend to you and the Doctor's mother deep sympathy in your bereavement. Probably among the Doctor's medical friends there were few, besides ourselves, who knew him both as a friend and teacher and in consequence we feel a double loss, for the more than friendly relationship of teacher and student remained even though many years passed for some of us since we learned and profited by his knowledge.

We recognize the futility of attempting to express in this poor manner our very high regard for him and our many obligations and we sincerely trust that the acute sorrow incident to such a loss may not be too severe.

Very sincerely,  
O. M. SHERE, M.D.,  
C. E. COOPER, M.D., A. H. WILLIAMS, M.D.,  
H. S. SHAFER, M.D., President.  
ROBERT L. CHARLES, M.D., Secretary.

## The Annual Meeting

### SOCIETY NOTES.

#### THE NEW OFFICERS.

The election of officers resulted as follows: President, Dr. Will Howard Swan, Colorado Springs; First Vice President, Dr. T. E. Carmody, Denver; Second Vice President, Dr. M. J. Keeney, Pueblo; Third Vice President, Dr. Samuel French, Meeker; Treasurer, Dr. George W. Miel, Denver; Councillors, Drs. Edgar Hadley, Telluride; Charles F. Gardiner, Colorado Springs; Edward A. Whitmore, Leadville; Jacob C. Chipman, Sterling; Delegate to A. M. A., Dr. Edward Jackson, Denver; Alternate, Dr. Howell T. Pershing, Denver; Publication Committee, Dr. Charles S. Elder, Denver. The Secretary, Dr. Melville Black holds over.

Resolved, By the Colorado State Medical Society that the consolidation of the Denver and Gross College of Medicine and the School of Medicine of the University of Colorado is the most important advance in medical education in the Rocky Mountain West, and that the constitutional amendment before the people for adoption at the November election permitting the teaching of medicine in Denver by the University of Colorado should receive the hearty support of all members of this society and of the voters of the state.

#### CONVENTION NOTES.

An interesting feature of the convention was the exhibit under the auspices of the Colorado Association for the Prevention and Control of Tuberculosis, located in the hall near the entrance of the assembly room. The exhibit consisted of supplies of sputum cups, hygienic cuspidors, sleeping tents for indoor use, individual drinking cups and outdoor sleeping garments. An electrical sign that has attracted world-wide attention flashed forth its record of mortality from tuberculosis.

"Every time this light goes out some one in the civilized world dies from tuberculosis; two every minute, 120 every hour, 2,880 every day, 1,000,000 every year." A series of charts showing the mortality from consumption in dusty trades, based on ten years' experience of the Prudential Insurance Company, showed the proportion of deaths from tuberculosis among various trades.

PROGRAMME OF ENTERTAINMENT.

Tuesday, Oct. 11, 2 o'clock. To Crystal Park by motor cars. This trip was for the visiting and home ladies, and was enjoyed greatly. It lasted about three hours and went over a road rising in places to an altitude of 8,000 feet.

The president's reception was held in the evening in the grand ball room of the Antlers. Dr. and Mrs. Freeman were assisted in receiving by Dr. and Mrs. Black and by the members of the reception committee. The scene was one of great animation and beauty. The dancers thronged the floor and prolonged the festivities until the wee sma' hours.

Wednesday morning was set aside for the visit of the ladies to the Van Briggie pottery. Mrs. Freeman had a delightful surprise in store for the guests in the shape of a beautiful piece of ware as a gift to each. In the afternoon by special car the ladies repaired to the Colorado Springs Golf Club and enjoyed a "bridge tea." In the evening the male visitors betook themselves to a grand old Barbecue Jungle Party in Cheyenne Canon. The El Paso County Medical Society were the hosts. Special cars conveyed the party to their destination and home again. Besides the regular old-fashioned barbecue features there were others that kept the spectators on the qui vive. A fake bull dog and badger fight led off. The badger at the last moment was prevented from being present. Then came a boxing contest, then a clever exhibition of buck-and-wing dancing. Tight rope walking and bag-pipes followed, and a pillow fight wound up the proceedings, Dr. Webb winning the prize.

Meanwhile the ladies were being entertained by a vaudeville performance at the Majestic theatre.

On Thursday afternoon the ladies left the Antlers at 2 o'clock by special car for a trip to Colorado City, Manitou and the Iron Springs. By the Incline railroad they climbed to the top of Mt. Manitou and enjoyed the grand scenery.

Thursday evening was devoted to the banquets, that at the El Paso Club for the visiting ladies and that at the Antlers, the annual banquet of the Colorado State Medical Society.

Besides the regular set functions there were many others arranged for small parties, notably a dinner of twenty covers at the El Paso Club on Tuesday evening, a luncheon of about the same size at the El Paso Club on Wednesday noon, a dinner by Dr. McGruder to several visiting doctors and their wives, etc., etc.

A thrilling episode of the meeting was the desperate battle of Dr. Pershing against time. Dr. Pershing, after a number of exciting rounds, finally got the decision.

The Society was complimented by the attendance of five members of the Utah Medical Society. Drs. Sol G. Kahn, R. C. Smedley, R. R. Hampton, E. T. Root and W. R. Tynsdale.

# Constituent Societies

## BOULDER COUNTY.

The Boulder County Medical Society met in the Dispensary September 1st, 8 p. m. Dr. Jolley presided.

Dr. Jolley read a communication from the undertaking firms of the city in regard to the question of charges made for autopsies in which each explained their custom of making no charges for such services. Moved by Dr. Rodes that the letters be placed on file. A letter was read from Dr. Black regarding the course of study for next year. On motion it was decided to refer this to a special meeting to be held September 15th.

Dr. Rodes reported a case of renal colic with some unusual features and promised to give a further report at next meeting. Dr. Jolley reported a case of bullet wound in leg, later developing symptoms strongly resembling tetanus. The symptoms passed off in about thirty hours, disproving the diagnosis.

At this point the secretary read the minutes of the last meeting which were approved. C. GILLASPIE, Secretary.

## BOULDER COUNTY.

The regular meeting of the Boulder County Medical Society was held in the Dispensary, August 4, 1910.

Meeting was called to order by the president. The minutes of last meeting read and approved. It was arranged that the president should see the undertakers and ask for their position in writing in regard to charges made for autopsies.

Mr. Ross C. Whitman was elected a member of the Society.

Clinical cases were reported by Doctors Gilbert, Johnson, Jones and Jolley. The meeting was then adjourned. C. GILLASPIE, Secretary.

## DENVER COUNTY.

A regular meeting of the Medical Society of the City and County of Denver was held September 6, 1910, in the Academy of Medicine, Dr. C. B. VanZant presiding.

The minutes of the last regular and a special meeting were read and approved.

The Board of Censors reported favorably on the applications of Dr. W. A. E. DeBeque, the ballot taken and the Doctor elected to membership.

The applications of Drs. L. W. Ely, C. O. Eigler and J. E. Tomlinson were read and referred to the Board of Censors.

Under the head of new business the secretary called attention to the large number of delinquent members. There was some discussion on the subject, after which the secretary moved that a committee of ten be appointed by the president to make a personal canvass of the members whose dues were unpaid. The motion carried and the following were appointed: Dr. R. Levy, chairman, with Drs. Fraser, Macomber, Tennant, Spivak, Sedwick,

Stevens, Powell, Burns and Wilcox. Dr. Tennant asked that the delinquent members be assured that new books would be placed on the shelves.

At the request of Dr. Le Garde, Dr. C. A. Powers exhibited a patient who had appeared before the Society some sixteen months before. The case was one of congenital cavernous telangiectasis of the arm and exhibited for the purpose of pointing out the conical stump.

Dr. H. G. Stover exhibited "Some Examples of Roentgen Examination of the Digestive Tract." The Doctor gave an account of the methods employed and showed some X-ray plates of the digestive tract after bismuth had been introduced. He then showed some semi-diagrammatic views taken from actual negatives. He then entertained the Society for a few minutes with some colored views of Hawaii.

Dr. A. J. Markley read a paper entitled, "A Consideration of Ehrlich's New Remedy for Syphilis," which provoked considerable discussion, Drs. Dworzak, Oettinger, Stevens, Edson and Rover participating. The Society then adjourned. Present, 50.

On September 13th the Medical Society of the City and County of Denver held its eleventh alternate meeting.

The program for the evening was an address by Dr. R. Levy entitled "Bronchoscopy and Esophagoscopy With Demonstrations." Dr. Levy entertained the Society with an elucidation of the subject and a presentation of patients. The novel feature of the evening was the demonstration of the lower air passages by means of a chloroformed dog.

A regular meeting of the Medical Society of the City and County of Denver was held on September 20, 1910, at the Academy of Medicine, Dr. C. B. Van Zant presiding.

The minutes of the preceding meeting were read and approved.

The Board of Censors did not report. Dr. Beggs stated that hereafter he would object to the order of business being changed. The president then stated that he would be glad to entertain a motion looking to changing the constitution and by-laws to give some elasticity to the order of business for the convenience of the Society.

The propositions for membership by Drs. E. Cassidy and R. A. Hamill were read and ordered to take the usual course.

Dr. R. Levy, the chairman of the committee to canvass the delinquent list, reported progress and requested more time, which was granted.

The Society then listened to the scientific program. The first number was "Presentation of a Case," Dr. W. N. Beggs. Dr. Beggs gave the history of a case of probable or possible Hodgkins disease and exhibited the patient. Dr. T. Love read the blood findings. The discussion was opened by Dr. A. Taussig and participated in by Drs. Lindahl and Gibson. Dr. Beggs closed the discussion.

Dr. J. R. Hopkins then read a paper entitled "Reflections and Convictions Regarding the

Management of Cases by Physicians and Surgeons." Dr. Burns requested the speaker to point out where the paper had brought out new points. Dr. Hopkins stated that he looked for a general betterment of the profession. Dr. Gibson stated that in diseases of the abdomen he thought the X-ray men should have something to say. Dr. Edson spoke for the general practitioners.

On motion the society adjourned. Attendance, 55.

A special meeting of the Medical Society of the City and County of Denver was held on the afternoon of September 24, 1910, at the Academy of Medicine on call, at 4:30 p.m., for the purpose of passing resolutions to the memory of Dr. C. K. Fleming.

Dr. W. A. Jayne moved that a committee of three be appointed by the president to draft suitable resolutions and to see that a suitable floral offering be provided. The motion was carried.

It was moved that the resolutions be signed by the president and secretary in their official capacities. Carried.

The committee appointed consisted of Drs. Levy, Lyman and Sewall.

Dr. Jayne suggested that the program committee set aside an evening as a memorial and that an orator be appointed to address the Society on "Dr. C. K. Fleming, His Work and His Life."

Several members, in short speeches, expressed the high esteem in which Dr. Fleming was held.

On the evening of September 27, 1910, the Medical Society of the City and County of Denver held its twelfth alternate meeting.

Dr. Jackson gave an address on "Ophthalmic Aids Readily Available in General Diagnosis," presenting the most important eye symptoms of use to the general practitioner. Considerable discussion followed on some of the points raised.

E. W. LAZELL,  
Secretary.

#### FREMONT COUNTY.

The regular meeting of the Society was called to order by the president at the office of Dr. R. C. Adkinson, in Florence, on Monday evening, September 26, 1910.

Dr. W. T. Little of Canon City read a paper entitled "Treatment of Typhoid Fever." The essayist dealt, however, with only two phases of the treatment at length, namely, the use of intestinal antiseptics, and the proper and improper methods of feeding. Dr. Little backed up his condemnation of antiseptic drugs and the restricted diet with extensive statistics. The paper called forth discussion from every member present.

Dr. Otis Orendorf of Canon City took the Society to task, individually and collectively, in a paper to "The County Medical Society—Some Criticisms and Suggestions." The criticisms were timely and the suggestions good.

This paper was discussed by Drs. Little, Graves, Rupert and Adkinson.

The committee on fee bill revision made a partial report, which precipitated much discussion. Pursuant to a motion, a special meeting was called to be held in Canon City October 26th for the purpose of disposing finally of the matter.

Luncheon was served at the Idlewild Restaurant to the members and visitors.

ROYAL C. ADKINSON, Secretary.

#### LARIMER COUNTY.

Larimer County Medical Society, regular meeting September 7, 1910, met in the Y. M. C. A. There were present: Drs. Winslow, Kickland, Morgan, Taylor, Upson and Stuver. The minutes of the last regular and two special meetings were read and approved. The program of the evening was then taken up. Dr. Stuver read a paper on the "Etiology and Prevention of Typhoid Fever." He quite fully discussed the various causative factors of the disease and the preventive measures that should be adopted to protect nurses, other members of the families in which it exists and the community against the spread of the infection. There was then a general discussion of the subject, participated in by Drs. Morgan, Kickland, Winslow, Taylor, Upson and the discussion was closed by Dr. Stuver. Adjourned.

E. STUVER, Secretary.

## Books Reviewed

**A Text-Book of the Practice of Medicine**—By James M. Anders, M.D., Ph.D., LL.D.; Professor of Medicine at the Medico-Chirurgical College; Physician to the Medico-Chirurgical Hospital; Consulting Physician to the Jewish Hospital and to the Widener Home for Crippled Children; formerly Physician to the Philadelphia and to the Protestant Episcopal Hospitals, Philadelphia; Officier de l'Instruction Publique. Illustrated. Ninth edition. Thoroughly revised. Philadelphia and London. W. B. Saunders Co., 1909.

This edition will be recognized as a careful revision of its predecessor. The most important advances since the date of the previous edition have been added, but much of the text in that has been omitted, thus keeping the volume at about the same size. Controversial points have for the most part been omitted from consideration, but on the other hand the author has dwelt in detail on the practical aspects of medical affections. Under treatment, he has presented the most widely-approved methods, and to prophylaxis and causal therapy he has paid the attention which is due them.

The section on tropical medicine has been somewhat enlarged to meet the steadily increasing need of an American practitioner in this branch of internal medicine. The point about this book that distinguishes it from many is the importance ascribed in the art of diagnosis to chemistry, physiology, bacteriology,

morbidity anatomy and pathology. The time has gone by when one makes diagnoses by intuition. The "good old doctor," who fixed the patient with his eagle eye and sized his case up without asking a question is a thing of the past.

L. W. E.

**Dislocations and Joint Fractures**—By Frederic J. Cotton, A.M., M.D., First Assistant Surgeon to the Boston City Hospital; Assistant Professor of Clinical Surgery in Tuft's College Medical School, Boston; with 1201 illustrations, 830 from drawings by the author. Philadelphia and London. W. B. Saunders Co., 1910.

Injuries to joints and about them, as the author says in his introduction, constitute one of the most doubtful fields of surgery, a field strewn with wrecks—the products of mistakes and of unavoidable difficulties, prolific in discontent and in resultant actions at law.

Great strides have recently been made in our treatment of fractures, and of fracture-dislocations, but, unfortunately, the bulk of the profession has not kept pace with the leaders. Probably there is no branch of surgery that is so generally followed by all, and so poorly carried out by most. To him who, without special training and experience, wishes to treat cases of bone and joint injuries himself, a book like this is invaluable. A fracture properly treated is always a source of satisfaction; improperly treated, of humiliation. Dr. Cotton's book helps to put into the hands of the many what is known to few. We commend it heartily.

L. W. E.

**Modern Surgery, General and Operative**—By John Chalmers Da Costa, M.D., Professor of Surgery and Clinical Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia General Hospital; Consulting Surgeon to St. Joseph's Hospital, Philadelphia; Fellow of the American Surgical Association; Member of the American Philosophical Society; Member of the Société Internationale de Chirurgie; Member of the Medical Reserve Corps, U. S. A. Sixth edition; thoroughly revised and enlarged, with 966 illustrations, some of them in colors. Philadelphia and London. W. B. Saunders Co., 1910.

Less than three years ago the fifth edition of this book was published, yet a revised edition now appears. Almost every section has been altered or added to. Particular mention has been made of arteriorrhaphy, Criles' arteriovenous anastomosis for effecting transfusion of the blood, Brewer's tubes for transfusion, Halsted's aluminium bands in the treatment of aneurism, the operative treatment of recent fractures, Horsley's operation for chronic spinal meningitis, the use of positive and negative air pressure in intrathoracic surgery, Murphy's method for treating acute peritonitis, Cushing's operation of decompression for brain tumors, Bier's intravenous local anaesthesia, the parathyroid glandules, the intraglandular extirpa-

tion of goitre, the Lorenz treatment of hip disease, cystoscopy and catheterization of the ureters, gunshot wounds in war, Bier's treatment of inflammation, Wright's views on inflammation, Rosenberger's method of diagnosing tuberculosis, immunity, vaccines, tuberculin in diagnosis, fat embolism, erysipeloid, human glanders, Wassermann's reaction for syphilis, ankylosis, radium, electrical injuries and the X-rays.

The author says that unfortunately the book grows larger with each edition. He views this with regret and apprehension, but it is an unavoidable tendency in modern books, and neither he nor anyone else can stop it. The book contains possibly some statements open to criticism. Probably the Cotterel strapping for sprained ankle is called Gibney's method because Gibney did not invent it. Dr. Da Costa has called in the assistance of various experts in special lines, and therefore what is said on these lines is said with authority. L. W. E.

## Items

Official announcement of the Seventh International Congress on Tuberculosis has been made from the American headquarters by the National Association for the Study and Prevention of Tuberculosis. The Congress will be held in Rome, in 1911, from September 24th to 30th. This gathering, which meets every three years and was last held in Washington, D. C., in 1908, will be under the direct patronage of the King and Queen of Italy. The Secretary-General is Professor Vittorio Ascoli, and the President Professor Guido Baccelli. It is expected that an American committee of one hundred will be appointed as the official body representing the United States. The Congress at Rome will be in three sections, that on etiology and causes of tuberculosis; on pathology and therapeutics, both medical and surgical; and on the social defense against tuberculosis. The names of the presidents of these sections will be announced in the near future.

The Sisters of Charity, Mercy Hospital, Denver, are negotiating the purchase of the City Hospital, La Junta. If these negotiations are successful, the hospital will be generally enlarged and a training school added.

The Otero Hospital Association, La Junta, has purchased the Thorne property on Raton avenue and will add to the present building an addition providing accommodations for sixteen patients, together with rooms fitted for electrical, X-ray and medical baths. Special attention will be given to providing accommodations suitable for chronic cases requiring other than medical treatment.

Dr. A. L. Stubbs, La Junta, is the newly-elected county chairman of the Otero county Republican committee.

Dr. S. H. Savage, Swink, is the Republican nominee for corncorner of Otero county.

Dr. E. W. Kearby, Rocky Ford, who has been under treatment in Kansas City, is back and has resumed his practice.

Dr. K. Hanson of Grand Junction has recently returned from a month's vacation spent at the Mayos.

The wife of Dr. H. S. Henderson of Grand Junction died September 15th after a lingering illness. The sympathy of the entire society in Mesa county goes out to Dr. Henderson.

Dr. R. B. Porter of Fruita and Dr. A. G. Taylor of Grand Junction have been nominated as coroner on the Republican and Democratic tickets respectively.

Drs. Bull and Day of Grand Junction are the proud possessors of new automobiles.

Dr. Carroll E. Edson has resigned the professorship of medicine in the University of Colorado.

Dr. J. N. Hall delivered an address on gastric ulcer and its modern treatment before the Nevada State Medical Society at its annual meeting at Lake Tahoe on September 19th.

Dr. C. F. Shollenberger of Denver has recently returned from his prolonged stay in foreign lands.

Drs. C. E. Edson and C. B. Lyman were guests at the recent meeting of the Utah State Medical Society held at Salt Lake, and read papers.

The Post-graduate Club of Denver has resumed its work after the summer vacation. The increased attendance and the enthusiasm shown guarantee a most prosperous year. The Society decided at the beginning of the year to assign the program to those best qualified to elucidate the subjects. In this way every program will be presented by men doing special work. The club meets in the Empire Building, every Friday night at 8 p. m.

Drs. C. A. Powers and S. Fosdick Jones have returned from their European trip.

Dr. and Mrs. H. S. Denison of Denver, after a summer spent in Germany and Switzerland, have recently returned home.

Drs. J. R. Gaines, formerly of Musselford, Missouri, a graduate of P. & S., St. Louis, '91, and W. F. Julian, formerly of Katcina, Colo., a graduate of Rush, '00, have located at Las Animas, Colorado.

The medical schools of Colorado opened last month with large classes, the Denver and Gross with fifty-eight students, thirty-one seniors and twenty-seven juniors, the medical department of the University of Colorado with about ninety-eight students in all four classes. Arrangements have been completed between the two schools that when the classes come together in January, according to the agreement made last spring, the sections of the third and fourth classes will have pursued exactly the same work.

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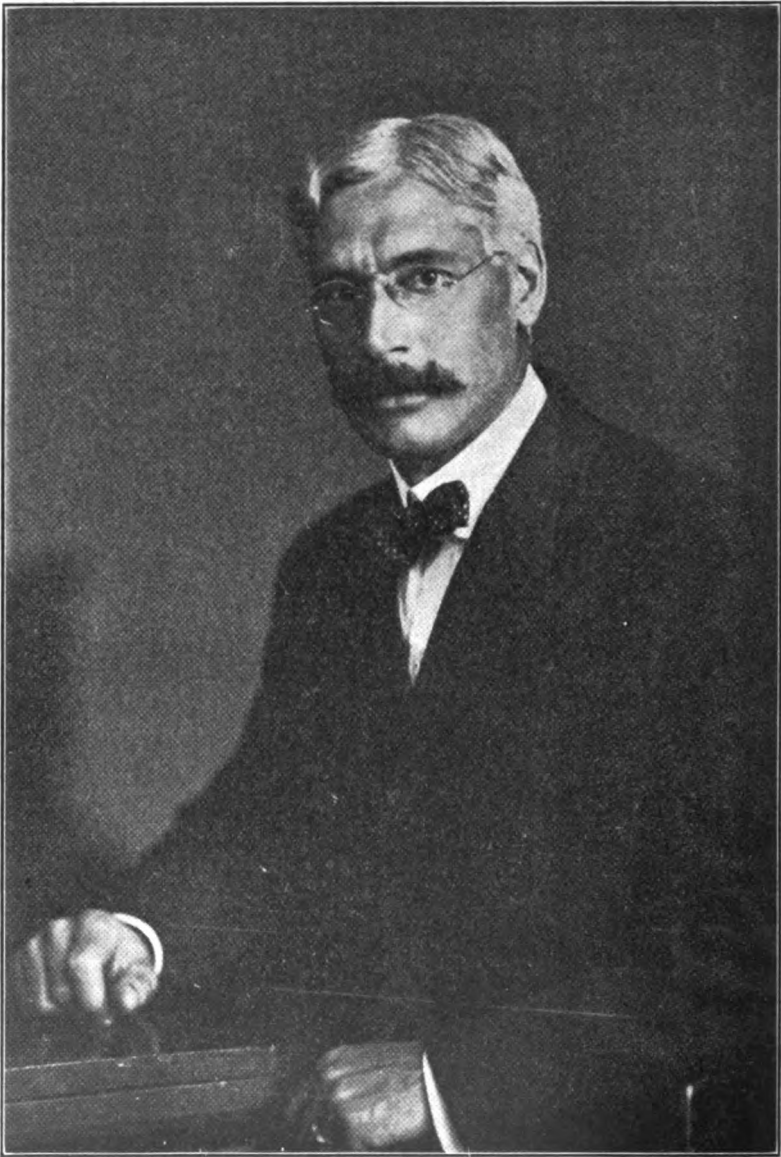
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**President of the Colorado State Medical Society.**

# COLORADO MEDICINE

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All communications to this publication must be made to it exclusively. It will be more satisfactory to all concerned if contributions are typewritten.

Secretaries of the County Societies are earnestly requested to report their meetings, including the subject matter of the papers presented, and in general, the substance of the discussions. Communications and items of interest are invited from all parts of the state. Death notices, removals, changes of address, etc., are especially desired.

Marked copies of local newspapers, or clippings containing matters of interest to the profession, will be gratefully acknowledged. The name of the sender should be given.

The journal will be issued on the 15th of each month. All copy must reach the editor not later than the first of the month. Advertisements of proprietary medicines will be accepted provided the preparations advertised have been approved by the council of pharmacy and chemistry of the American Medical Association. Address all communications regarding advertising to

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NOVEMBER, 1910

NO. 11

## Editorial Comment

### INCREASED INTEREST IN MEDICAL MEETINGS.

There is a gradual but steady increase in attendance at medical meetings. This was evidenced at the recent meeting of the State Society at Colorado Springs at which 218 members registered present. The largest meeting in the history of the Society was in Denver three years ago with 238 registered present. Never in the history of the Society has a meeting outside of Denver been so largely attended as at Colorado Springs. The Colorado Springs men have a reputation for entertaining, and this was no doubt largely responsible for the attendance, but not entirely. Our members are

awakening to a realization that the men in this state who have reputations and stand at the head are the leaders at our medical meetings. They are as ready to acquire knowledge as to give it. The men who are the busiest are the most regular attendants. The men who make the excuse, "I can't get away" and make it every year are gradually losing ground. The man who does get away, who mingles with his fellows, who keeps abreast of the times, is gaining ground. When a patient is informed that the doctor is at a medical meeting, or is out of town attending the State Medical Society, the patient's respect for him is increased. He is not offended and does not run frantically to the stay-at-home doctor who is always to be found. In most instances he awaits the doctor's return unless



his ailment is urgent and in that event he consults the stay-at-home temporarily until the man he wants has returned.

What is the use of living and dying obscurely in some little hamlet? Why not get into the game and play it as it should be played? Why not be in the swim and be a doctor with a reputation among doctors all over the state? There should be some satisfaction in it. We have never heard of a medical man being injured by this laudable ambition. On the other hand we look upon the regular attendants at the state meetings as the leading physicians of their respective localities, and the truth is they usually are.

This is the reason why the attendance year by year is increasing. This year one-third of the membership was present. It should be still better and it will be. Next year the meeting will be at Steamboat Springs, the new spa of Colorado. Its resources as a health resort are just being opened up. Every doctor in the state should know from personal inspection about the wonderful resources of this locality. All the regular attendants will go. The "stay at homes" will, we hope, break loose for once and go, too. We feel sure that having gone once they will go again and thus soon become regular attendants and resurrected from the obscurity that has so long engulfed them. Having caught the fever of advancement it is probable that a desire for broader fame than the confines of Colorado will induce them to attend the meeting of the American Medical Association. If so, their ambitions will be realized and in a short time Colorado will be famous for having the best known medical men in the country. As a matter of fact it is already known to have the best medical men in the West. Suppose none of our men attended the A. M. A. meetings, would we have this reputation? Not at all. We would not be known on the medical map. Are we not all proud of the standing of the

Colorado profession in the American Medical Association? Ask yourself this question and then if you have helped any? If you have not, begin at once by attending your local society meetings, the State Society meetings and the A. M. A.

#### *OUR NEW PRESIDENT.*

The new President of the Colorado State Medical Society, Dr. Will Howard Swan, was born in Winchester, N. H., Nov. 20, 1867. He is a graduate of the High School of that town, and also of the Medical School of Harvard University, class of 1891.

He was an interne for a year and a half at the Boston State Hospital, and settled in Beverly, Mass., in 1892.

During his residence in Beverly he took an active part in the organization and development of the Beverly Hospital.

He was married Sept. 14, 1899, and has two children.

Owing to illness in his family, he moved to Colorado Springs in the early part of 1900.

He is an ex-president of the El Paso County Medical Society, and is at present vice-president of the American Climatological Association.

During his ten years in Colorado Springs he has built up a large practice in general medicine. His sterling integrity, generosity, and kindness to those in distress have endeared him to patients and colleagues, and the Colorado State Medical Society has done well to bestow upon him the highest honor in its gift.

We predict a year of growth and progress for our Society, and a most successful meeting at Steamboat Springs in 1911.

#### *THE JEWEL AND THE CASKET.*

In the October number of the Vermont Medical Monthly, the official organ of the State Society, appears the annual address of the president, Dr. Walter B. Hayden. Reviewing the progress of medicine during

the past decade, he enumerates among other things the great service of the Council of Pharmacy in exposing fraudulent proprietary medicines, quacks and fraudulent institutions.

"It is unfortunate," he says, "that a credulous public does not recognise the faker, nor realise the danger of his nostrums; it is equally unfortunate that a careless profession does not expose the faker and reveal the worthlessness of his mixtures. \* \* \* Can we not lend a hand in this modern crusade?"

Dr. Hayden, we can and will. Sir, we are with you heart and soul. The medical profession of Colorado reaches out a hand, and pats you on the back. You can count on us to the last drop of blood. If there is one thing that stirs our nature to its vast depths it is a gallant battle for the right. But, stay! What is this that confronts us in your advertising columns? Why, none other than our old friends, Fellows' Syrup of the Hypophosphites, California Fig Syrup, Gray's Glycerine Tonic Comp., Sal Hepatica, Ergoapiol, Glycothymoline, Katharmon, Hayden's Viburnum Compound, and last of all Pepto-Mangan (Gude). We don't mind the smell, Dr. Hayden, but it hurts our eyes. If the good old Puritanical New England conscience can stand such company in its battle for the right, count us out.

#### NEW MEMBERS.

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C. H. Morse.....	Alamosa
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N. H. Chapman.....	Monte Vista
F. W. Carpenter.....	Center
A. R. Nash.....	Del Norte
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Elizabeth Cassidy.....	Denver
R. A. Hamill.....	Denver
J. W. Amesse.....	Denver
W. A. E. Debeque.....	Debeque

## Original Articles

### DICEPHALUS DIBRACHIUS.

By W. W. REED, M. D.,

Assistant Professor of Obstetrics, University of Colorado, Boulder.

The occurrence of a case of dicephalus dibrachius in the writer's obstetric practice seems worthy of note.

The index catalogue of the Library of the Surgeon General's office shows that few cases are on record. Most of these are reports of cases of united twins, where the body of each is united with the other in some more or less superficial way, as chest to chest or abdomen to abdomen. Rarely are cases recorded where the fusion is as complete as it was in the case that the writer desires to place on record.

While the condition is rare, so rare in fact that one doing a moderate amount of obstetrics will not meet with such a case in a lifetime, and obstetricians of great ex-



FIG. 1.

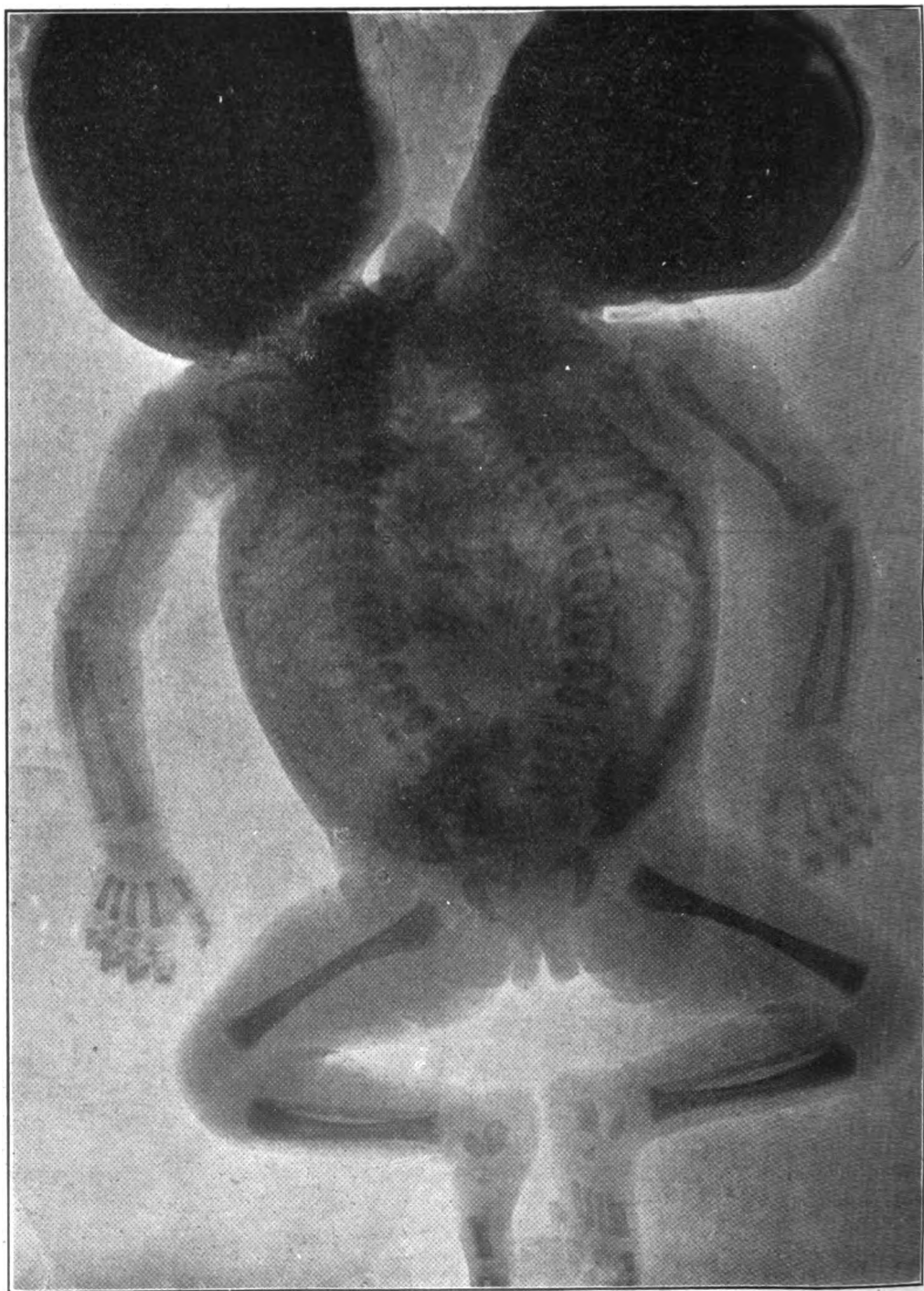


FIG. 2.

perience have seen no more than one or two of these double monsters, yet any day anyone doing obstetric practice may suddenly find himself face to face with it. It, therefore, becomes important to know something of the usual history of such deliveries and how the difficulties have best been overcome.

Aside from the teratological interest, some may find points of interest in the difficulties encountered in diagnosis, as well as the mechanism and management of the labor.

The monster is evidently a female with perfectly formed external genitalia. It has two heads, each with a distinct neck, (Fig. 1) normal in size and length; one monstrous pair of shoulders, two arms, two legs, two distinct spinal columns, one sternum, two clavicles, one enormous chest; one abdomen, one pelvis. Near the center of the back, just between the shoulders, is a bony mass evidently a fusion of two scapulae. (Fig. 2.)

The single thorax contains two fused pairs of lungs, two hearts, each with its two auricles and two ventricles. (Fig. 3.)

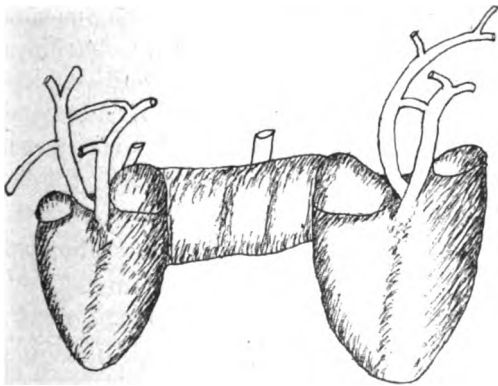


FIG. 3.

A single abdominal cavity contains two stomachs, each with its separate œsophagus, a double liver, a very large, single gall bladder. The intestines throughout, both large and small, were double, two separate lumina held together by a fibrous septum (Fig. 4), two kidneys, one appendix, one spleen.



FIG. 4.

one bladder, a double uterus, single vagina, one anus.

The weight of the monster is 11 lbs., entire length 20 inches, the bisacromial diameter is 7 inches, bitrochanteric  $3\frac{1}{2}$  inches, intercristous 4 inches.

Of the two heads the left is somewhat larger. Its circumference at the suboccipito-bregmatic diameter is 14 inches, the biparietal diameter 4 inches, bitemporal  $3\frac{1}{2}$ , occipito-frontal  $4\frac{1}{2}$ , suboccipito-bregmatic 4, occipito-mental  $5\frac{1}{2}$ , cervico-bregmatic  $4\frac{1}{2}$ , fronto-mental  $3\frac{1}{4}$  inches.

The right head, while in utero, was bent over against the right shoulder, and over the temporal region of this head is quite a large depression as the result of the pressure against the point of the shoulder. The

circumference of the right head at the sub-occipito-bregmatic diameter is 12 inches, biparietal diameter is  $3\frac{1}{2}$ , bitemporal 3, occipito-frontal  $4\frac{1}{2}$ , occipito-mental 5, sub-occipito-bregmatic 4, cervico-bregmatic 3, fronto-mental  $3\frac{1}{2}$ .

The mother of this foetal anomaly is Mrs. C., a primipara aet. 23; weight, 140 lbs.; height, 5 ft. 5 in. No history of other monstrosities or of twins in the family. She has had three miscarriages in the early months, each attended by considerable hemorrhage and by more or less febrile reaction. Menstrual history negative; personal history negative.

The present pregnancy was normal except that the intra-abdominal pressure symptoms were very troublesome, and toward the latter months the distension became almost unbearable.

The labor came on at about the estimated time of 280 days. Labor had been in progress several hours when the writer saw the patient for the first time. The membranes had ruptured, and the liquor amnii had drained away, but the abdomen still remained enormously distended and the fundus reached up to the ensiform cartilage.

A definite diagnosis of the position of the foetus was obviously out of the question. However, the head could be palpated over the inlet and enough other information could be obtained by the external examination to make a diagnosis of multiple pregnancy strongly suspicious. The foetal heart sounds could be best heard just below and far to the right of the umbilicus. Nothing unusual was noted as to the character of the sounds. A second heart sound could not be located.

The external pelvic measurements were ample for an easy normal birth; the interspinous was  $10\frac{1}{2}$  inches, intercristous  $11\frac{1}{2}$ , intertrochanteric 13, external conjugate 8, external obliques  $8\frac{1}{2}$ , circumference 36 inches.

Upon internal examination the cervix

was found softened and very well dilated, the bag of waters absent. The head was presenting, but high at the inlet, the engagement poor, the sagittal suture in the right oblique, and the anterior fontanelle palpable.

Uterine contractions were strong, expulsive efforts good, and the patient, though a little discouraged, still worked well. Up to this time nothing more serious than twin pregnancy was suspected. After an hour or so more of good pains and little or no progress, it was decided to terminate the labor by forceps delivery. With the patient thoroughly anæsthetized and while palpating the presenting head with a view to applying the blades, the second head was discovered lying in the left iliac fossa. A more extended investigation revealed the fact that both heads belonged to the same body, a discovery by no means welcome under the existing circumstances. We had gone too far for a Cæsarean section, even if operative and hospital facilities had been available. Version could avail us nothing. The prospects of delivering the monster alive with any degree of safety to the mother by any possible means were not encouraging. Ethically speaking, it did not seem justifiable to subject the mother to any high degree of risk to save the life of the monster, though foetal heart sounds and cord pulsations could still be made out. So under the circumstances an embryotomy seemed the best procedure to follow. Forceps were applied to the presenting head, which occupied the R. O. P. position, and after considerable difficulty delivery of the head was accomplished. The delivered head was severed from the body. the advancing shoulders were crowded back into the uterus, the second head, pressed down by external manipulation into the inlet, was grasped by the forceps, and the delivery accomplished. Some difficulty was experienced with the shoulders, owing

to their enormous size—7 inches bisacromial.

The third stage was normal. The placenta was large but single, and easily delivered by Crede's method, slight hemorrhage following. A second degree perineal laceration was immediately repaired, the puerperium was normal, and a good general recovery resulted.

Attention is called to a letter from Secretary Black on page 430 relative to a circular letter which was sent out with his official signature attached to it. Please read it.

### *MEDICAL NIHILISM.\**

BY J. E. PEAIRS, M. D.,

PUEBLO, COLORADO.

"Medicine is a great humbug. It is nothing like science. Doctors are mere empirics when they are not charlatans. We are as ignorant as man can be. I tell you frankly I know nothing of medicine. I repeat to you, there is no such a thing as medical science."—Magendie.

"I tell you, what I say is the truth of God. I am an old physician; I am an old professor, but I want to tell the truth. We are guessing in the dark, and there is no such thing as medical science."—Douglas MacLagan.

"The science of medicine is founded upon conjecture and improved by murder."—Sir Astley Cooper.

"The medical practice of our day is, at best, a most uncertain and unsatisfactory system; it has neither philosophy nor common sense to commend it to confidence."—Evans.

"I declare it my conscientious conviction, founded on long experience and observation, if there were not a single physician, man-midwife, chemist, apothecary, druggist or drug, on the face of the earth,

\*Read at the annual meeting of the Colorado State Medical Society, Colorado Springs, Oct. 11-13, 1910.

there would be less mortality, and less sickness than now prevails."—James Johnson.

"Gentlemen, ninety-nine out of every hundred medical facts are medical lies, and medicinal doctrines are for the most part stark, startling nonsense."—Gregory.

"The science of medicine is a barbarous jargon, and the effects of our medicines on the human system are in the highest degree uncertain; except, indeed, that they have already destroyed more lives than war, pestilence, and famine combined."—John Mason Good.

"Assuredly the uncertain and most unsatisfactory art that we call medical science is no science at all, but a jumble of inconsistent opinions; of conclusions hastily drawn; of facts misunderstood or perverted; of comparisons without analogy; of hypotheses without reason, and theories not only useless, but dangerous."—Dublin Medical Journal.

The foregoing quotations do not represent my sentiment, but are radical nihilistic utterances gleaned from the writings of men high in our profession, and are quoted to emphasize the fact that the subject chosen is germane. Pessimism is usually born of ignorance and indifference, and nihilism is the child of pessimism. The inadequacy of human science to trace the most important and vital processes of organic life to their ultimate origin has betrayed many an eminent practitioner into nihilistic utterances unworthy of him.

The history of medicine for a thousand years, interwoven with superstition, sorcery, magic, saints, relics, temple sleep and false theology, is not a thing to be reviewed with great pride, yet medicine in the past was but a reflection of its time. Mystic philosophy and religious superstition ruled the world. Even Galen believed in magic medicine, although he refused to believe in theistic medicine. The popular belief of the majority overcomes the resistance of the minority. No theory of medicine can

lift itself out of the period in which it lives. Natural science dominates in medicine to-day, but superstition is not dead, for death will never overtake it. Theism in one form or another constantly reappears. In the mystic past, the gods having created man perfect, were then responsible for his imperfections and disease. Feasts and theatrical performances were given to appease the gods to induce them to turn away contagion and pestilence, these performances being the probable religious origin of our theatre. Theism of today not only denies that God causes disease, but even denies its existence, yet how inexorable is the logic of life and death. Bradley says, "When man went about to break logic that logic broke him."

Medicine today, though dominated by the scientific spirit of the age, is far from perfect. The profession still stands in fear of lay criticisms. In Babylonian days the sick were carried on litters to the market place that they might benefit by the advice of the wayfarers. Such effort is unnecessary today because the neighbors gladly betake themselves to the bedside of the afflicted. Doubtless the future will look upon us as we the past, but medicine ought to be estimated, as is man himself, not by its errors or failures, but by its successes. It should be judged by its achievement. When measured by that standard, every thinking, appreciative doctor, far from being nihilistic, ought to have the greatest pride in the achievement of medicine to-day, and its glorious promise for the future. When the achievements of the past century have been chronicled, sanitation and preventive medicine will be marked as the greatest accomplishment of the century. No other field of human endeavor, no, not all fields of human endeavor have accomplished so much for humanity as has medicine. It is useless to attempt to comprehend the vast possibilities of preventive medicine, to grasp the importance of its past

or to prophesy the limitless future. No man here or anywhere, be he pessimist or optimist, can for a moment have a conception of what this world would be, of the effect upon civilization, if it were possible to eliminate preventive medicine.

Roll time back a half a thousand years—unsanitary conditions prevailing everywhere. Black death, the worst recorded epidemic, has devastated Europe, Asia and Africa; has destroyed more than two-thirds of the earth's inhabitants. In Europe alone twenty-five millions have perished. Rapine, robbery, debauchery, murder, everywhere. Hope, the greatest inspiration of man,—dead. But enough! Such a picture is preposterous, unthinkable. Medical science has written the emancipation proclamation of freedom from epidemics and plague, forever.

Medicine is now emerging from empiricism and struggling to attain the high standard demanded by science. In transition nihilism is a natural accompaniment, for in any great field of human activity a fundamental change of regime is certain to usher in a period of nihilism and chaos. Medicine has not been accorded the rank which it deserves, yet I believe this is largely because of the inane discussion and pessimism in the ranks of medicine.

Hippocrates said: "Disputes amongst doctors caused disrespect of the whole art among the people so that they began to doubt the reality of medical art." Medicine has been exclusive, instead of being inclusive.

In the history of scientific development there are times of little apparent movement. During such periods, men, impatient of unsolved mysteries and inexplicable phenomena, break away from the classical line of thought, and many times sincerely believe that they have found truth. Like the small bayous which leave the Mississippi only to return again because there is but one great course, so pseudo-healing

societies must ultimately rejoin the parent stream, because truth is one and cannot be divided without altering its character. Part truth is often more harmful than untruth.

The phenomena which the impatient man is not able to analyse through natural causes, he is prone to attempt to explain through supernatural causes. Hence the theistic mind-healers, suggestion-societies of to-day. I believe that nothing succeeds without some basic element of truth. There is no question but what these suggestion societies have accomplished much good in certain lines for humanity. But this admission does not weaken the position of medicine, because it is not only an ethical but also a moral obligation on the part of medicine to go to the limits of human knowledge, and to glean what is good. Failing to do this, medicine is not all it can be, therefore not all it ought to be.

Years before suggestion societies of any form sprang into existence Charcot had developed the fact that suggestion had a power quite apart from its healing agency; That when applied to the sub-conscious it was capable of producing most wonderful effects on the human organism, that it could modify circulation and digestion, cause temporary loss of sight, motion and feeling, produce blisters and swelling, recall the forgotten past, and induce the patient to perform post-suggestive commands. A closer psychological and physical relationship was indicated. The field was unoccupied, but with the exclusiveness which has always been maintained by medicine it failed to utilize the scientific knowledge demonstrated by Charcot. Far back of Charcot the Great Teacher and His disciples used suggestion almost constantly.

Lazarus was commanded to come from the tomb, the daughter of the ruler, and the young man of Nain were both commanded to rise. Peter told Dorcas to arise from the bier. With the deaf and dumb man,

Christ touched his ears and tongue and commanded; "Be opened." He laid his hands upon the eyes of the blind and said, "Seest thou ought?" Peter commanded the lame man at the gate to look at him, and then again said, "In the name of Jesus Christ of Nazareth! Walk."

Every student of applied psychology may be master of suggestion—but what medical colleges provide for exhaustive study and research in this great branch of medicine? It is estimated that seventy-five per cent. of all ailments in America are of nervous origin. Shall medicine be fitted to minister to these cases or shall they be left to the unscientific theistic suggestion societies? Every suggestion society of whatsoever character, including the Emmanuel movement, every pretended school which has any basic truth, is and ought to be a constant reproach to medicine.

Medicine always has been neglectful regarding acknowledged, effective, therapeutic features of medicine. Massage has been used since the time when history began to record the usages of medicine, but where is massage used today except in an incidental and spasmodic way? Where are the colleges of medicine which provide for scientific training in this ever-feasible means of therapy. Ignored by medicine, adopted by unscientific faddists, the very merit of this therapeutic measure has made it so effective in relieving some ills of mankind that it has been recognized socially and legally and at times the laity have believed that it menaced general medicine.

Certainly medicine is responsible for osteopathy. Massage generally and scientifically taught and constantly used as a therapeutic measure, would leave no field for the osteopath.

Medical history shows that there have always been dissenters, drugless healers, pseudo-scientists, magicians, conjurors, sorcerers and theorists of all classes. They have come, for a day, for a year, for a



period. They have gathered adherents, flourished and then disappeared, but down through the centuries medicine has endured. Attacked blindly, regardless of achievements, never has any feature of medicine been more bitterly assailed, within and without, than drug therapy, yet drug therapy has been and must continue to be the main reliance of the man who cares for the sick. I believe that the pessimistic nihilism in our own ranks has largely induced attacks from without. Witness the following:

Oliver Wendell Holmes, the great teacher of anatomy, the wit, the humorist, under the influence of the icy atmosphere of Vienna science, was betrayed into a brilliant rhetorical statement which has been widely quoted both by physicians and the laity. Holmes said: "I firmly believe that if the whole *materia medica*, as now used, could be sunk to the bottom of the sea it would be better for mankind and all the worse for the fishes." This brilliant but reckless statement has done incalculable harm to medicine, and reflexly to mankind, but before human suffering Holmes' brilliant rhetoric failed him and he stands convicted in his own words, when he says: "It is not of the slightest interest to the patient to know whether three or three and one-quarter cubic inches of his lungs are hepatized. His mind is not occupied with thinking of the curious problems which are to be solved by his own autopsy—whether this or that strand of spinal marrow is the seat of this or that form of degeneration. He wants something to relieve his pain, to mitigate his anguish or dyspnea, to bring back motion and sensibility to the dead limb."

I know that it is an act of temerity to defend drug therapy even before this assemblage, for not only surgeons decry drugs, but a large number of general practitioners are constantly apologizing for

drug therapy. I have no apology for the defense of drug therapy at this time, for drugs are either valuable or valueless in the practice of medicine. That they are valuable is attested by a few specifics; and who will have the temerity to declare that research will not discover more? It is said that the use of drugs is largely empirical. So is our method of eating, clothing, drinking and marrying. If it be true that we are powerless to arrest, to modify, or to favorably influence diseases by therapeutic measures and drug agents, then our occupation is largely a misnomer, we are really chief nurses, and any well trained drugless healer can take our places.

Jacobi says: "Iron in the form of a pill is as necessary as iron in the shape of a scalpel or a hemostat." Can you conceive the condition that would obtain without the few specifics we have? Can you believe that we have not the power to discover others? Is it not possible that our present dearth of specifics is due to the fact that we know so little about the human body, that we are not prepared to use them with intelligence. The practitioner must know the indication for the selection of drugs, just as he is supposed to know how to order baths, food, electricity, massage, heat and cold, or to suggest hope, yet how can he know this when as a diagnostician he knows so little of the human body, of its processes, of its secretions, of the propagation, and of the elimination of disease? Diagnosis is only a means to an end—the application of remedies for relief or cure, and I say cure advisedly, because we do cure. Often the patient left to nature would die. The physician masters, directs and uses nature, and the patient recovers. Who cures—nature or the doctor? What causes an engine to move, steam or the brains of the engineer behind the lever? It is no excuse to decry drugs because they are not standardized. If they are of value the government itself should standardize

them. What better purpose can the government have, what more valuable expenditure can it make than to standardize that which is potent for the welfare of mankind? Surely it would not be impolitic for the government to aid in the conservation of man.

Drug therapy has kept pace with our knowledge of the human body and its processes. Who can tell me scientifically, definitely, of the process of digestion of the disintegration of food, of its assimilation and elimination?—how the proper food element is by some strange magnetic power attracted and taken up by the cells in distant portions of the body? Who can explain the effect of laughter and good cheer upon this process? Aye! who will tell me scientifically of the propagation, and of the elimination of disease.

Until the physiologist, the chemist, can make plain these vital phenomena let him not scorn the partially empirical application of drug remedies. The average diagnosis is easy and is usually correct both in medicine and in surgery. The application of surgical measures which is really a mechanical therapeutic measure, is not often difficult because it is mechanical and efficiency may be acquired by practice. Owing to our indefinite knowledge of physio-chemical processes the use of drug therapy is much more difficult. The custom at Würtemberg illustrates this assertion. A student is permitted the first year to amputate a finger or toe; the second year he may amputate a leg or forearm; the third year he may amputate an entire limb and the fourth year he is permitted to give his first dose of medicine. Drugs are potent and beneficent in their effect upon mankind when used in suitable dosage and proper cases. The dog is endowed with sense and discretion enough to search out and eat the grass which is the proper remedy for his ailment. The canine's act is intuitive, but surely mankind by intelli-

gent effort and research may be as wise in using nature's potent remedies for relief and cure. But men are not as persistent in the study of the application of drugs as they are in other branches of medicine. Stevens says: "The older physicians grow, the more sceptical they become of the virtues of medicine, and the more they are disposed to trust to nature." I deem this a libel upon age—I do not believe that men of advanced years believe less in medicine, but that they use less, because of more skillful application; that they do not trust to nature more but are more capable of directing nature. If this be not true, the question of indifference, ignorance and senility must be considered.

Strange to say, nature is credited with wonderful achievements and rarely condemned for failure. What is nature? We do not know. We know, however, that nature uses blood to build up abnormal tissue as readily as to form normal growth. We do know that a poisonous plant is as much the product of nature as is the fabled Balm of Gilead; that the bacillus of tuberculosis is as much nature's product as are the phagocytes. We do know that the pallor of death upon an invalid's cheek is as much the product of nature as the blush of health upon a maiden's brow. We know that nature will form an abscess in the appendix, necessitating interference for its removal and then she as readily renders aid in healing the incision. When left to her whims, nature is a fakir—a double crosser—and as apt to be malignant as benign. The sunshine kisses a flower into bloom and strikes a man dead at the same instant. Nature's product, electricity, uncontrolled, will instantly incinerate a human being; controlled, will carry a message across the trackless sea to save a thousand human lives. Nature mastered, controlled and directed is the hand-maiden of medical art.

Advancing age does not always indicate growing wisdom. No man can grow along any line unless he is a student of that particular line. If a physician has lost his youthful enthusiasm, if he be absorbed in other branches of medicine to the exclusion of drug therapy, then certainly he must wait expectantly upon nature, but the man who through ignorance or indifference, through pessimistic discouragement, or through disbelief in drugs waits on the whim of nature, is responsible for uncounted, unnumbered thousands of lifelong cripples and invalids.

Recently in a group of medical practitioners, during a discussion of drug therapy, it developed that every one of the twenty men was distinctly nihilistic regarding the potency of drugs. Every man present was thoroughly familiar with the latest and best surgical literature, yet but two were surgeons exclusively. They were general practitioners regularly, surgeons incidentally. They admitted that their income was largely from general medical practice. When asked how many had read the latest and best things on drug therapy, it appeared that but two had read anything worth while within ten years.

Surgery has become the drama of medicine. It is positive work with definite cures, and is one of the marvels of the century because of the intense study and investigation of this mechanical branch of medicine. General medicine is unassuming and undramatic, yet general medicine through that dependable, unpaid sanitary officer, upon whom both the people and the state depend—the private physician—does more for humanity in a year than a surgeon can do in a thousand years.

What is the purpose of medicine? Comprehensively it is the conservation of mankind. A thousand years before conservation became the agitating topic of the civilized world, medicine was bending every effort to the end of saving man. In three

centuries science and sanitation had doubled the working life of the English speaking people. The government is spending millions in the effort to conserve material values, not yet realizing that the most effective way to accomplish this is to recognize man's value, and to protect and to enhance his worth in every way possible. The Memphis epidemic of yellow fever cost this government a hundred million dollars. With a like amount a national department of health would bring about an administrative system of public sanitation and preventive medicine that would revolutionize public opinion and bring added dignity and respect to medicine as has the department of agriculture to agriculture.

Medicine is not a pure science and can never become so because it must deal with all the complex problems of life and their effect upon the physical welfare of man. However, as Bartholow says, "He who despises his art can never become a great artist."

The sum total of human knowledge has been doubled within the last half century. Who dares attempt to set the limits of knowledge in this field? We must estimate medicine by what it has accomplished and by getting a vista of its ultimate achievement.

I have endeavored to show:

1. That an influential pessimistic nihilism exists in our ranks.
2. That there is no occasion for nihilism in medicine when it is viewed comprehensively.
3. That drug therapy has kept abreast with other branches of medicine.
4. That medicine has been not only indifferent but exclusive regarding unusual therapy.
5. That medicine judged by its sociological successes has demonstrated the desirability of its more definite recognition in the organization of state and national departments of the government.

**A CASE OF ATROPHY OF THE LIVER,  
ATROPHIC CIRRHOSIS OF SPLEEN  
AND PANCREAS, AND FATTY  
DEGENERATION OF THE  
KIDNEYS.\***

HAROLD G. GARWOOD, B. S., M. D.,  
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M. S. M.—Aet. 62; occupation, railway conductor; Feb. 28, 1910.

Complaint—"Running off of bowels."

Family History—Negative.

Personal History—Generally well. Had two attacks of typhoid fever; no complications. Had scarlet fever and diphtheria as a child, followed by a good recovery. Had chronic rheumatism in Mexico, with involvement of arms and knees. Was laid up for a year in Mexico three years ago (1907) with a broken arm. History otherwise negative.

Chest—Negative.

Gastro-intestinal—Appetite generally good. Patient belches gas occasionally; no vomiting; has never vomited blood. Bowels regular; move once each day. Has never had swelling of feet nor puffiness of face until recently. Urine has always passed freely; no history of inflammation of kidneys until his present illness. Had gonorrhœa some years ago; evident recovery. His wife has had one child; one miscarriage. No history of lues.

Habits—Patient has observed irregular hours owing to his occupation, and has consumed a good deal of whiskey in his life, drinking three or four times a day and often to excess. Has not noticed any change of weight. Habitat; Colorado, Arizona and Mexico.

Present Illness—Began a little over a year ago, October, 1908, in Mexico. Was in bed three months in railway hospital with dysentery. Got up and spent four or five weeks in Arizona. Went back to work in old Mexico, running from Mexico City to Vera Cruz. Was soon taken down again.

\*Read at the annual meeting of the Colorado State Medical Society, Colorado Springs, Oct. 11-13, 1910.

He came to Colorado and was under the care of a Denver physician for kidney trouble. He has been running a small grocery store since coming to Denver, but has been almost bedridden for the past two months. No special pain has been present, but the patient has been weak. The appetite has been enormous at times, but capricious. Bowels move three or four times a day; the stools are light colored and never contain blood. Patient has lost some weight, probably (15) fifteen pounds in the last six months.

Physical Examination—The patient is rather thin and anæmic. The mucous membranes of his eyes and lips are pale. The skin of his face is edematous and pits on pressure. Eyes; pupils equal and react promptly to light and accommodation. Tongue dry, breath foul, teeth covered with sordes. Chest—Comparatively well formed, enlarged in the antero-posterior diameter. The infra-clavicular and supra-clavicular spaces are large, and the clavicles prominent. The costal angle is increased in size. Expansion seems free and equal. Vocal fremitus well marked both front and back. Percussion note slightly tympanic over front and sides. Breath sounds clear; no râles. Expiration slightly prolonged. Heart—Point of maximum impulse not visible nor palpable by stethoscope: It is four c. m. outside nipple line to the left, in the 7th or 8th interspace. There is no thrill. Heart sounds are clear. Pulse is synchronous in both wrists, tension high, good rhythm, about 58 or 60 to the minute. Radial wall palpable after stripping for about ten c. m. upward into the forearm; no calcareous places felt. The abdomen is symmetrically distended, particularly over the flanks. No marked dilatation of the superficial veins is present. Slight bulging of the skin and reddening at the navel can be seen. No peristalsis is visible. No masses felt. Percussion note tympanic all over epigastric.

umbilical and hypogastric regions. Marked movable dullness in both flanks. Spleen not palpable; no splenic dullness. Liver dullness began at the 8th costal cartilage on the right side but could not be elicited below the costal margin, nor could the edge of it be felt on deep inspiration. Lower limbs were slightly swollen and œdematous, and pitted on pressure.

The patient was transferred to St. Luke's Hospital. Specimen of urine obtained before the transfer was of straw color, specific gravity 1.018. Heller's nitric acid test and heat test for albumen were positive. No sugar by Fehling's test. Microscopically—Numerous hyaline, epithelial and fatty casts, few scattered blood cells.

While in the hospital the patient's symptoms remained the same. No change in the physical signs. Patient was put in hot packs, given hot rectal enemata, stimulated hypodermatically with digitalin, strychnine and nitroglycerin with very little improvement. Pulse remained about 60 throughout, with continued high tension. The temperature was slightly subnormal. The ascites and œdema of face and ankles persisted. No headache, vomiting nor jaundice. Urine remained the same. Stools were not frequent, but were examined microscopically for parasites—result negative, a few red blood corpuscles found. Patient died after the fifth day.

**Antemortem Diagnosis**—Arterio-sclerosis, chronic interstitial nephritis, atrophic cirrhosis of the liver.

Autopsy performed on the same day.

**Macroscopic Examination**—Lungs negative. Heart small size. On section all valves apparently normal; slight arterio-sclerosis of the aorta.

Gastro-intestinal tract normal.

**Liver**—Thought to be at the time atrophic and cirrhotic. On section surface seemed indurated and difficult to cut, and there seemed to be an increase of connective tissue elements.

Pancreas was small, some arterio-sclerosis of the main artery.

The spleen was small, as you see, and on section seemed hard to the knife.

**Kidney**—Enlarged, white, capsule stripped easily. On section showed thinning of the parenchyma, an increase of the connective tissue elements, and evident inflammation.

**Microscopically**—Liver seems to be normal.

**Pancreas**—Moderate degree of cirrhosis; slight increase of connective tissue elements.

Spleen shows moderate degree of cirrhosis.

**Kidney**—Marked degree of fatty degeneration and parenchymatous nephritis.

No sections made of the heart muscle.

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The Ehrlich-Hata remedy "606" was proposed for syphilis, but reports are coming in of its successful use in other, non-syphilitic, affections. Loeb states that it gives phenomenal results in spirillosis and suggests that it may be a specific for them. He asserts that ordinary warts disappear rapidly under its use and lichen simplex Vidal has yielded to it. Psoriasis is said to be equally benefited. Iverson states that a single injection in a case of tertian malaria caused a cessation of the symptoms and a disappearance of the plasmodia from the blood. Jakimoff claims it to be a powerful antidote in tick fever. What next? Whatever else may be said of "606" it appears to be a most useful form of arsenic.

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An excellent article by Dr. L. B. Lockard in the October number of the *Denver Medical Times* is well worth reading, just as well worth reading as when it appeared about one year ago in *Annals of Laryngology*. Old friends are, after all, best.

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Clinical experiences with the Cammidge Reaction by the laboratory staff under Drs. Mayo at Rochester, Minn., have led to the following conclusions: "That even where the most elaborate care is exercised to follow the technique of Mr. Cammidge's 'C' reaction, in the most uniform manner, if knowledge of the clinical histories and other factors of the personal equation be eliminated, the end results, judged by Mr. Cammidge's own criteria, must be considered, as a means of diagnosing disease of the pancreas, as both valueless and misleading." The end reactions are considered to indicate actual metabolic variations the relationship of which to the welfare of the patient is not apparent.—*Surg. Gyn. & Obstet.*, Aug. '10.

# Progress of Medicine

## INTERNAL MEDICINE

Edited by

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### PYRAMIDON AS A SUBSTITUTE FOR THE COLD BATH IN THE TREATMENT OF TYPHOID FEVER.

Shortly after his recovery from an attack of typhoid fever I heard Prof. Hare say that were it not for his family he would prefer death to a repetition of what he had suffered from cold baths.

In 1903 Valentini (*Deutsche Medizinische Wochenschrift*, No. 16, 1903) published his results with pyramidon as a substitute for cold bathing in typhoid fever. He had treated nineteen patients, giving the drug in doses of 0.3 to 0.4 gram every two hours, day and night, and always found that it kept the temperature normal, the sensorium clear and the pulse good. The duration of the disease was not materially shortened nor the mortality evidently reduced, but his patients were at all times comfortable and needed very much less care in nursing. Prompted by Valentini's paper, Bruno Leick treated 113 cases of typhoid fever with pyramidon and published his results in the *Münchener Medizinische Wochenschrift*, No. 12, 1907, results that in every way confirmed the remarkable claims of Valentini—his mortality was less than 6%.

In December, 1907, in an address before the Unterelsassische Aerzterverein (*Medizinische Zeitung*, Heft 1, 1908), Prof. Moritz reported on the use of pyramidon in the Strassburg clinic and more recently (*Münchener Medizinische Wochenschrift*, No. 33, 1910), Jacob has reported more in detail from the same clinic. It seems to be the practice at the Strassburg clinic to give pyramidon in rather small doses, 0.1 to 0.15

gram, beginning at 6:00 a. m. and continuing every two hours until midnight; in these doses and intervals effectually preventing the development of the "status typhosus." The results have been astonishing—no somnolence, no headache, no restlessness, appetite uncomfortably good. The patients sat up in bed and talked with their friends, slept soundly at night, and in every way seemed to be in good condition. Prof. Moritz claims that owing to the clear sensorium, the nursing is made very much easier, and the danger of transmission very much lessened.

The mortality at this clinic under pyramidon (80 patients) is 10% against 14% (127 patients) with cold bathing.

My own experience with pyramidon dates from the appearance of Valentini's paper in 1903 and while it hasn't been large it has been eminently satisfactory. I find out the dose necessary to keep the temperature normal and continue this dose every two hours, day and night, until I think that perhaps the disease has run its course, when I discontinue, to resume as before the moment the temperature begins to rise, if it does, and so on to the end, and now I often say: "It is fun to have typhoid fever if you take pyramidon."

### SIX HUNDRED AND EIGHTY-TWO CASES OF OPEN PULMONARY TUBERCULOSIS TREATED WITH TUBERCULIN. LOWENSTEIN.

Much has been written about the tuberculin treatment of tuberculosis. Many workers have reported their results, but unfortunately in almost every instance the number of patients has been too small to warrant conclusions. It is true that Götsch (1901), Petruschky, Löwenstein and Rapoport, Kremser and Krauser (1904), have published studies based on more than 100 cases and during the preparation of Löwenstein's recent paper (*Deutsche Medizinische Wochenschrift* No. 36, 1910), Bande-

leir's marvellous report of 200 patients with open pulmonary tuberculosis treated with tuberculin with 63% cures—1st stage (Turban), 100%; 2nd, 87.3%; 3rd, 42.2%—has appeared, but no one has dealt with the problem in so large a way as Löwenstein at Beelitz. The material there is enormous, 766 patients in 1909. For twenty years of hygienic and diatetic treatment the percentage of cures (disappearance of bacilli from the sputum) is about 15. So this figure may be taken as about the best for sanitarium treatment at Beelitz.

During the last 26 months 682 patients (open pulmonary tuberculosis, all stages) have been treated with tuberculin, old, new and combined, (begun with the old to 100 milligrams and continued with the new) and the average percentage of cures is 52.93; with old tuberculin alone 57.94%; with new alone, 42.05%; combined, 55.07%.

W. J. B.

#### SURGERY

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Denver, Colo.

#### THE TREATMENT OF EXSTROPHY OF THE BLADDER BY THE CONVERSION OF THE ISO- LATED CECUM INTO THE BLADDER, AND THE APPENDIX INTO THE URETHRA.

Makkas (Zutreibl. f. Chir., 1910, xxxvii, 1073), reports a case of a girl aged 12 years with exstrophy of the bladder, atresia of the vagina, an anus situated more anteriorly than usual, and a weak sphincter. The operation was on May 10, 1910. A twelve c. m. incision was made through the right rectus, the cecum was isolated—both ends were divided and closed, and then it was displaced easily to the median line. The ileum was united to the ascending colon by a lateral anastomosis. The appendix, measuring 1 c. m. in length, was passed

through a small opening in the abdominal wall just below the operative incision, the distal end was removed, and the mucosa was sutured to the skin. The large incision was then closed by three layers of sutures. After the 10th day the cecum was irrigated through the appendix by means of a Nelaton catheter.

On June 18, 1910, a second operation was performed. The ectopic bladder was separated from its bed and the ureters, with sufficient periureteral tissue to preserve their blood supply, were isolated for about 4-5 c. m. A median incision was then made in the abdominal wall, and the cecum was found lying near the median line, adherent to the anterior abdominal wall. It was opened near the lower pole, and a piece of the bladder wall about the size of a five-mark piece and carrying the ureteral orifices, was implanted into the opening in the cecum, and was fixed there by sutures. The abdominal wound was closed. A Nelaton catheter was retained in the new bladder and urethra. The urine flowed freely through the catheter. Four weeks after operation the patient was out of bed. The catheter was retained, and it was necessary to empty the bladder every 3 to 4 hours during the day and not at all during the night. Its capacity was now 325 c. c.—the urine was free of albumen but contained mucus.

F. W. B.

#### DATA IN REGARD TO SPINAL ANESTHESIA DURING 1909.

Hohmeier and Koenig (Archiv. f. klin. Chir., Berlin, xciii, No. 1, p. 1-291). have examined the records of 2,400 cases of spinal anesthesia, and state that it is not all together a harmless procedure. There were 12 fatalities due directly to the anesthesia, and 4 of these were due to paralysis of the respiratory center. In 7 of the fatal cases, the patients were over 70. In a large proportion of cases the patients, years afterwards, seem to suffer from paresthesia.

neuralgia, weakness, headache and vertigo. They urge clinicians to re-examine patients on whom spinal anesthesia was used, for these examinations may reveal a large number of cases of late injuries to the central nervous system, due to the spinal anesthesia. They conclude that the method should be reserved for exceptional cases.

H. M. C.

## GYNECOLOGY AND OBSTETRICS

Edited by

C. B. Ingraham, M.D.,  
Denver, Colo.

### PELVIC METASTASIS IN THE DIAGNOSIS OF HOPELESS ABDOMINAL CARCINOMA.

Palmer (Surg. Gyn. Obst., Feb., 1910), from the histories of the Mayo Clinic in Rochester, Minnesota, has studied 435 cases of carcinoma of the upper part of the abdomen. Of these cases 6½ per cent. showed pelvic transplantation deposits as the earliest clinical sign of inoperability. Seven and two-tenths per cent. of gastric cancers showed these metastases. Fifty-five per cent. more cases were shown to be inoperable through thorough rectal examination for pelvic metastases than because supra-clavicular gland metastases were present. The carcinomatous nodules are found along the anterior rectal wall about 3 to 5 inches from the anus, and, when present, warrant a most unfavorable prognosis, as regards the saving of life.

### ABDOMINAL DRAINAGE IN GYNECOLOGY.

Hartmann and Metzger (Ann. de Gyn. et d'Obst., June, 1910), base their opinions on the observation of 997 cases. The cases include 268 fibromata, from the mortality statistics of which they conclude that drainage was not used often enough. Sixteen of these were drained by the vagina, and all recovered. Of fifty-five drained by the abdomen, three died. There were 446 cases

of adnexitis, with twelve deaths, which they conclude would indicate the use of drainage more frequently. The absence of drainage is usually followed by a slight transitory elevation of temperature. A simple rubber tube with large openings is the best drain for the abdomen. The important part is to drain only a limited cavity, whether it be infected or not. In extensive peritoneal lesions drainage is contra-indicated. The difference in the occurrence of hernia in drained and undrained cases is so small as to be practically nil.

The authors state that the peritoneum has a great power of absorption and can remove a large amount of fluid after an operation. Although drainage is less used than formerly, it is a useful resource in properly selected cases.

### FREQUENCY AND DANGERS OF UTERINE FIBROIDS.

Young and Williams (Boston Med. Surg. Jour., 1910, CLXII, 663), reviewing a series of 971 autopsies on adult females, find that uterine fibroids occur in from 7 to 16 per cent. of all adult females and from 7 to 22 per cent. in those over thirty-five years of age.

The American figures show that the age at which fibroids give symptoms that demand their removal is between thirty-five and forty-five years. The German figures are forty-five and fifty.

In large fibroids, complications and degenerations dangerous to life occur in 10.5 per cent., and their routine removal is indicated. In submucous fibroids and fibroid polyps there is necrosis in 43 per cent., which indicates their routine removal.

Small, symptomless fibroids are harmless, and may be let alone, but when met with in the course of operation should, if feasible, be removed because of the possibility of their increasing in size.



## INCOERCIBLE VOMITING OF PREGNANCY.

P. Guilæ (*Gaz. de Gyn.*, Apr. 1, 1910), says that pernicious vomiting of pregnancy is attributed to three conditions—neuropathic troubles pre-existent to pregnancy; nervous troubles reflex from the genital organs, and gravidic auto intoxication. The author claims that the last cannot be a cause, because the vomiting ceases too soon after emptying the uterus. Four cases of his own are reported in which vomiting threatening the life of the patient stopped immediately on emptying the uterus, and toxins, if present, could not have been eliminated rapidly enough to have stopped the vomiting. He believes the vomiting is solely a reflex from the uterus.

C. B. I.

## OPHTHALMOLOGY

Edited by

E. W. Stevens, M.D.,  
Denver, Colo.

## MUSCÆ VOLITANTES.

At some time in his life almost every individual becomes conscious, under certain circumstances, of small moving objects in his field of vision, the so-called muscæ volitantes. Often in the case of nervous patients these phenomena assume an importance out of all proportion to their real significance. When a patient complains of seeing floating shadows like flies, hairs and strings of beads, his refractive media should be carefully examined with the ophthalmoscope, for there may be an objective cause for the subjective sensations. There may be beginning cataract or floating opacities in the vitreous. The latter are common in eyes which are highly myopic. In most cases, however, the eye will be found to be absolutely normal. The patient has become cognizant of a purely physiological phenomenon. The vitreous is not a homogeneous clear jelly, but contains organized cellular elements, the relics of embryonic life, which throw faint shadows upon the

retina. In the *Recueil d'Ophthalmologie* for February, 1910, Scrinì discusses the subject and summarizes the literature. It is interesting to note that as early as 1690, the Jesuit, Dechales, suggested an explanation which was not far from the correct one. The phenomenon was due, he said, to the projected shadows of certain corpuscles floating in the neighborhood of the retina. In 1857, Douders showed that Dechale's view was correct. One of the best accounts of these phenomena has been given by J. Burdon-Cooper in the *Ophthalmic Review*, Vol. xxvii, page 357. He describes all the usual ways of rendering the minute particles in the vitreous visible and delineates all the common figures. If we carefully examine the refractive media of these patients with a +12 or 20 lens behind the ophthalmoscopic mirror and fail to detect any opacities in the lens or vitreous, we can assure them that the objects they can see are purely physiological, and can encourage them to cease to notice them.

THE POST-OPERATIVE HISTORY OF EIGHTEEN  
CASES OF MAGNETIC FOREIGN BODIES RE-  
MOVED FROM THE EYE BY THE  
HAAB MAGNET.

Dr. Charles Stedman Bull (*Transactions of the American Ophthalmological Society*, 1910), reports the after history of all his cases in which the patients could be followed up and the ultimate results could be tabulated. Only cases were considered in which the foreign body was located either in the vitreous or in the fundus.

The particle of iron or steel was successfully located by the X-ray in every case and a skiagram made.

The foreign body was successfully extracted by the Haab magnet in seventeen cases—all but one. The extraction was unsuccessful in one case.

The extraction occurred through the original wound in seven cases, and through another channel in ten cases.

The foreign body was located in the vitreous in eight cases and in the fundus in ten cases.

An iridectomy was done at the time of extraction in seven cases.

A cataract subsequently developed in eight cases.

Phthisis bulbi resulted in six cases, and sympathetic ophthalmia in eight cases, and enucleation was necessitated in ten cases.

The vision was permanently lost at the time of the accident in five cases.

There was immediate useful vision after removal of the foreign body in two cases. Permanent useful vision was not gained in a single case.

Dr. Bull emphasized the point that these eyes are all in a dangerous condition, and the prognosis must always be unfavorable, on account of the great danger of sympathetic ophthalmia. Even after a successful extraction useful vision will be permanently lost in the majority of cases, and enucleation will be necessary in order to save the fellow eye.

E. W. STEVENS.

#### **PATHOLOGY AND BACTERIOLOGY.**

Edited by

Henry S. Denison, M. D.,  
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#### **GAS BACILLUS DIARRHEA.**

Kendall and Smith (Bos. Med. and Sur. Jour., Oct. 5, 1910), describe a method of isolating the gas bacillus in twenty-four hours, which consists in inoculating sterile tubes of whole milk with a small portion of the suspected stool and then either heating to 80° c. for twenty minutes or bringing to the boiling point for three minutes, (by which treatment everything but spores is killed) and then incubating for eighteen to twenty-four hours. Those cultures which contain gas bacilli have at least eighty per cent. of casein dissolved, the residuum being pink in color and filled with holes from stormy fermentation. The

cultures smell strongly of rancid butter, and smears show Gram positive bacilli. The authors found only the gas bacillus in fourteen cases of intestinal disturbances where the clinical diagnosis was uncertain but suggested bacillary dysentery. The management of all acute diarrheas during the first twenty-four hours, while the cultures are being taken, is practically the same; that is purging and starvation. Subsequent treatment in these cases consists in the giving of buttermilk.

#### **THE WASSERMANN REACTION IN MILK.**

Thomsen (Berl. Klin. Wehschr., 1910, XLVII, No. 38), finds the Wassermann reaction in human milk always positive when the serum reacts positively. It is even more pronounced in milk than in serum. The absence of this reaction in milk is therefore decidedly against syphilis in wet nurses, etc.

#### **COLLOID NITROGEN IN CARCINOMA.**

Salkowski (Berl. Klin. Wehschr., 1910, XLVII, No. 38), confirms his previous finding with reference to the increase of colloid nitrogen precipitated by his alcohol method from the urine of patients suffering from carcinoma. Whereas the normal amount of such nitrogen is 3.5% of the total nitrogen, in carcinoma he found it as high as 7.8%.

#### **BALANTIDIUM COLI INFECTION.**

Bel and Couret (Jour. Infect. Dis., 1910, VII, 609), from the association of Balantidium coli with intestinal and other lesions at autopsy, believe that this organism is not as harmless as is commonly supposed. Wherever the parasites were present in the tissues in their case, lymphoid and plasma cells and eosinophils were constantly in evidence; whereas the absence of such cellular infiltration foretold a negative finding of the parasite. They admit that the ulcerations proper are due to terminal in-

vading bacteria but believe "that balantidium coli is primarily responsible for their presence by producing avenues for the entrance of these bacteria." They think that balantidia produce the hyperplasia and cell infiltration, either from a mechanical stimulation or by liberation of cytolytic ferments.

#### INTEGRITY OF COLLODION SACS.

In the famous Chicago drainage canal case, Jordan used collodion sacs to determine the longevity of the typhoid bacillus in natural waters and sewage and reported favorably to Chicago. Later the entire reliability of such results was questioned on grounds of experiment, by Johnson and Todd, who claimed that bacteria, especially the motile varieties, pass readily through such sacs. Fuller (*Jour. Infect. Dis.*, 1910, VII, 664) in a series of very careful experiments has shown conclusively, that collodion sacs, if carefully made by Frost's method, will retain their bacterial integrity for several months, no matter whether *B. typhosus*, coli, prodigiosus or the bacteria of crude sewage or septic-tank effluent is used for the test. This should settle, once for all, doubts cast upon Jordan's results in the case above mentioned.

#### OPSONIC IMMUNITY IN CHILDREN.

Tunnicliff (*Jour. Infect. Dis.*, 1910, VII, 698), finds that the opsonic power of the blood serum and the phagocytic activity of the leucocytes of infants towards streptococci, pneumococci, and staphylococci, which at birth is only a little less than that of adult serum and leucocytes fall markedly during the first months of life and do not again attain to normal height until about the second year. These results are very interesting in connection with infant mortality, and emphasize once more the importance of bodily resistance rather than infection in the acquirement of disease.

H. S. D.

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### DR. E. W. STEVENS.

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Almost within the narrow limit of a month the Denver members of the medical profession have had to spare two strong and helpful workers from the vineyard. Death has brought surcease to them both. Strong were they, at least in their unusual mental endowment and in the industriously acquired learning of that part of the vast literature of medicine that each had chosen to master and to convert to use. They were helpful, too, because they did not allow their financial relations to consume the whole of their attention, but reserved a large share of their time and energies to be expended for the advancement of professional interests and for the promotion of the particular specialty that each had chosen for his own.

Last month Colorado Medicine recorded the death of Dr. C. K. Fleming. In this issue it is our sorrowful duty to announce that Dr. E. W. Stevens has been stricken down almost in the very midst of his work.

Mention is here made of the departure of both because of the proximity of many circumstances that makes association irresistible. They were about of the same age and the death of the one followed rapidly upon that of the other. Each had been president of the Denver County Society. Upon both death made a sudden and, as far as our dim eyes can see, an untimely visitation.

Dr. E. W. Stevens was 46 years of age. He was born at Woodstock, New Brunswick, Canada. At the age of twenty he was graduated from the Jefferson Medical College with the class of 1884.

Twelve years ago, on account of failing health, he was compelled to surrender his work in Philadelphia. At that time the climate of Colorado inspired afresh that hope and resolution of his, which it seems

nothing but the direst disaster could suppress. He came to Denver, and resumed the practice of ophthalmology. During all these useful and active years the burden of disease lay heavily upon him. The tuberculous process in his lungs had involved the pleural cavity. An empyema developed, the accumulated matter discharging through a bronchus. This complication of his trouble persisted, and finally the kidneys, yielding to the unusual strain, refused to perform their function. He went home from his work on the 28th of October, feeling rather worse than usual, and on the 30th he was dead of anuria.

Dr. Stevens was energetic to the extent of his endurance. His ambition was great but rigidly limited by a predominant moral sense. If he has left an example to those who knew him, it is the exhibition of great industry under the most trying circumstances. This is no post mortem sentiment. Long ago a physician was heard to remark that he believed the tuberculous virus had the physiological action of strychnia, and cited the activity of Dr. Stevens as proof of his theory.

Many, perhaps most of us, might emulate the example of our departed colleague, who, though grievously afflicted, refused either to rest or to surrender. Those of us who have the advantage of health and strength, but are nevertheless discouraged by those faults which seem to lie "in our stars," must receive a silent rebuke from the grave of Stevens.

#### IN MEMORIAM.

The Colorado Ophthalmological Society desires to record its full appreciation of the high character and attainments of one of its charter members, Dr. Edmund W. Stevens, whose death occurred in Denver, October 30, 1910, after a few days' illness.

Dr. Stevens graduated with honors from the Jefferson Medical College in the class of 1884, at the age of twenty-one. He settled in Philadelphia, where his worth won recognition from such men as Weir Mitchell, Jackson and de Schweinitz.

In 1898 ill health caused him to seek the

more favorable climate of Colorado, which undoubtedly prolonged his life. His ability as an ophthalmologist, his broad culture and his social gifts were recognized by the profession and by the public. Bravely he built up another practice, often struggling against, but never complaining of, adverse circumstances. His simplicity of manner, entire frankness and absolute honesty emphasized his evident ability, in the minds of physicians and patients.

He rendered lasting service to the Colorado Ophthalmological Society, as one of its founders, as its very efficient secretary for two years, and as a constant attendant of its meetings. His discussions were always pertinent, terse, and at times epigrammatic; and were always listened to with marked attention, profit and pleasure. It is not too much to say that each member of the Society takes Dr. Stevens' death as an individual and personal loss. This Society feels that although his medical contributions were highly creditable and valuable, yet Dr. Stevens was even a better ophthalmologist than his writings would show.

For the irreparable loss to the widow and infant son of our beloved colleague, this Society wishes to express to Mrs. Stevens its heartfelt sorrow and most cordial sympathy.

GEORGE F. LIBBY,  
WALTER HILLIARD,  
DAVID A. STRICKLER,  
Committee.

#### ADDRESS IN MEMORIAM CAREY K. FLEMING.\*

BY ROBERT LEVY, M. D.

"How many things are there which a man cannot, with any face or comeliness, say or do himself. A man can scarcely allege his own merits with modesty, much less extol them; but these things are graceful in a friend's mouth which are blushing in a man's own."

It is because of this sentiment expressed by the philosopher that we devote a portion of this evening to honour the memory of one of our departed members. Seldom do we assemble for this purpose. Fortunately occasions such as this are not frequently demanded. Many of you will recall the memorial meeting held nearly nine years ago in memory of our old friends Eskridge and Parkhill, and the genuine grief the loss of these brilliant members called forth. Others of our fraternity have since an-

\*Read before the Medical Society of the City and County of Denver, November 1st, 1910.

swered the call, and appropriate recognition of their worth has been permanently recorded in our transactions. It is pleasing to contemplate that even though we physicians are given credit by the laity for heartlessness and lack of feeling, the true doctor can lay claim to a nature at once sentimental and sympathetic. It is true that in our daily work death is viewed as a physical change. When, however, this change comes to one of our friends and especially to a member of our fraternity, the sincere and heartfelt grief so frequently manifest is not only a refutation of the layman's idea but a confirmation of the tender, charitable and unselfish nature exemplified in the daily life of so many physicians. I want to speak briefly and simply of Dr. Fleming not only as a personal tribute, but also as a tribute of this Society whose president has chosen me as your mouthpiece.

Dr. Carey Kennedy Fleming was born in Dayton, Ohio, October 19, 1864. His early education was received in the common schools of that city, and later in the Chicago High School. He attended the Chicago University but did not graduate. His degree in medicine was received from the Northwestern University, Medical Department, then known as the Chicago Medical College, in 1886. He was a private student of Professor Hatfield, Professor of Diseases of Children, with whom he was associated after graduation. After some post-graduate work in New York City he came to Denver in 1888. He was associated with Dr. W. H. Buchtel until 1892, when he moved to the California building, which marked the beginning of our close association. In 1891 he was appointed on the dispensary staff of the Gross Medical College in the department of gynecology. For many years from this time he was intimately identified with Dr. Thos. H. Hawkins, whose associate in this department he became. In 1892 he was appointed lecturer on gynecology and

assistant to the chair of gynecology, abdominal surgery and clinical midwifery. In 1894 he was elected adjunct professor and in 1895 was made full professor of gynecology. In 1899 he was elected professor of gynecology and obstetrics. In 1892 the Denver and Gross colleges of medicine combined and he was named professor of gynecology and abdominal surgery, which position he held at the time of his death. For several years he was one of the editors of the Gross Medical College Bulletin.

Always active on committees and in the executive management of the school he was elected a member of the board of trustees in 1900, and secretary of the board of trustees of the combined school in 1902.

Before beginning the study of medicine he took up architecture, of which he was extremely fond. At one time it seemed as though this would be his career, but medicine finally won the day and he entered into its study with great earnestness. He was one of the organizers of the Rocky Mountain State Medical Association, whose president he became in 1900. He was also one of the organizers of the Denver Clinical and Pathological Society, its first secretary and its president in 1897. He was elected president of the Denver County Medical Society in 1900. In 1899 he was appointed by the governor to fill a vacancy on the State Board of Medical Examiners, continuing in this position until the time of his death. He was secretary and treasurer of the board from 1899 to 1901.

Although not a prolific contributor to medical literature his papers were marked by conciseness and originality. He was not given to elaborate sentences, but having a message to convey, he wrote to the point with brevity and directness. His great modesty caused him to undervalue his literary efforts. Several of his articles he did not even preserve. Among those of which copies have been found are "The Abuse of

the Mechanical Treatment of Uterine Diseases," the "Institution of a National Medical Bureau" (his presidential address at the third annual meeting of the Rocky Mountain Inter-state Medical Association), "The Present Status of Nephrorraphy," "The Influence of Trauma in the Production of Displacements of the Female Pelvic Organs," "A Simple Method of Controlling Hemorrhage in Certain Cases of Cæsarean Section," "Absence of the Vagina—Report of a Case; with Description of an Operation for Constructing One Artificially."

As a brother practitioner and an associate in medical matters, Dr. Fleming was better known to me than in any other relation. His was a nature that at once aroused the love of those who knew him even slightly. His face was an open book. It was evident upon but slight acquaintance that guile and trickery could never be attributed to him. He was in fact like a big boy, ingenuous to an extreme. Associated with these characteristics was an innate modesty almost approaching timidity, which frequently reacted to his own detriment. In his relations with other physicians the many excellent qualities of his nature became most pronounced. His love of honesty and honest dealing made him view with abhorrence certain questionable practices which at times are but too apparent among some of our brother practitioners. He had a high sense of the dignity and honor of our profession. He belonged to that school of which we are thankful to say there are still many who can separate the true function of the practice of medicine from the commercialism that has been injected into it. Despite rivalry and jealousy and the mad rush for practice, the honourable physician has no difficulty in upholding the highest ideals for which our profession stands. Despite obnoxious, unethical and dishonourable usage the dignity of our calling still stands well-supported.

Despite the low standards set by a few who have entered our ranks with none but commercial motives, the claim that our profession is one of the most honourable and learned is still maintained. Its high morals and ethics will live and flourish, and its high ideals will for all time be the guide of the pure and good among us.

It is fitting that this and other societies should honour the memory of Dr. Fleming, for in his daily life medical society matters played an important part. He had exceptional ability as an organizer, having been responsible almost entirely for the organization of the Denver Clinical and Pathological Society and for the Rocky Mountain Inter-state Medical Association. In suggesting the formation of these Societies it was with no thought of credit to himself but purely because he had given the subject careful consideration, and felt that there was a decided reason for such organizations and that they could be productive of much benefit to the medical profession. In fact, not being a ready speaker on his feet, endowed with a retiring disposition, the weight of any official position disturbed him greatly. He was not a frequent debater nor an after dinner speaker. His work in medical societies was that of the old wheel-horse; what he did counted for something, nor was it necessary to combine this work with spectacular effect. Whatever duties were assigned to him were faithfully and conscientiously performed. At all times was he loyal to his party.

The same gentle, lovable characteristics endeared him to medical students. As a teacher he was very popular. His directness of speech particularly appealed to his classes. He was exceptionally good at illustrating, being a draftsman of no mean ability. In teaching diseases of women he conceived the idea of using models of putty. It was surprising to see how much he could do with this plastic material.

As a practitioner, that which impressed

itself most upon his intimate physician friends was a certain restlessness which was born of a sense of extreme conscientiousness. He put his whole mind to whatever problem came before him. His feeling that perhaps some important point in a given case was being overlooked, together with his great modesty, occasionally resulted in a certain lack of self-confidence. It is not surprising that with such a nature the practice of medicine and surgery was a source of great anxiety. Responsibilities weighed heavily upon him. His natural mechanical ingenuity made him a surgeon of much ability, and his surgical sense was generally reliable because of his conscientious desire to overlook nothing. His results were above the average, and yet I question whether he was always happy in the practice of medicine. This was undoubtedly due to his anxiety as to results; for he was more inclined to blame himself than to find fault with his patients or to attribute an unsuccessful operation to unavoidable causes. His patients were his friends, loyal to a degree, loving him with a wealth of affection that is not always our lot.

In this brief and inadequate tribute to a good man in whom is found nothing worthy of condemnation nor that which putteth to shame," the element of a personal friendship predominates.

We mingle our tears with those to whom he was dearest, and console ourselves with the thought that we have observed the poet's admonition:

"Let not a death unwept, unhonored, be  
The melancholy fate allotted me!  
But those who love me living, when I die,  
Still fondly keep some cherished memory."

#### IN MEMORIAM.

Denver, Colo., Oct. 18, 1910.

The Colorado State Medical Society has suffered a great loss in the death of Dr. C. K. Fleming. He was for many years a valued member and contributed much to the success of its meetings.

The society wishes to place on record this testimonial of its appreciation of his great professional ability and especially of his conscientious and thoroughly ethical discharge of the

duties and responsibilities devolving upon a surgeon and teacher of surgery. Every medical society with which he was associated suffers by the loss of so able and upright a member.

J. N. HALL, Denver.

ROBERT LEVY, Denver.

T. H. BAKER, Pueblo.

Committee.

Dr. B. F. Haskins, the oldest practitioner in point of years as well as length of practice, of La Junta, died at the home of his daughter in Washington, D. C., October 4th.

Dr. Haskins and wife had just reached Washington, where they were to visit their daughter during the coming winter. Cerebral apoplexy was the immediate cause of death. Dr. Haskins was sixty-two years of age, a graduate of Bellevue, '73, and, prior to locating in La Junta, had practiced at Alamosa. Interment was at Arlington Heights Cemetery, Washington, D. C.

Dr. Haskins was a soldier in the Civil War, under the Union colors. He had not been an active practitioner for the past five years except to retain his position on the Board of Pension Examiners for Otero county. For many years he was assistant surgeon at the A. T. & S. F. Hospital at La Junta. At various times he was Mayor of the city, a member of the Board of Education, and County Physician.

He was a member of the various Masonic orders of the city and had served as Eminent Commander of the Knights Templar for three consecutive terms. He leaves a wife, a daughter, Mrs. M. H. Lapham of Washington, D. C., and a son, Earl Haskins, attorney, of La Junta.

Dr. Haskins in his active days was a physician in the first rank of the profession and was a man unusually well loved and respected.

An hypertrophied prostate in which nodules can be felt per rectum is carcinomatous.

In "clean" surgical cases a rise of temperature to even more than 99.5° or 100°, during convalescence after operation, always means something—it may be only serous retention.

A uniform enlargement of one buttock, developing spontaneously and not of subcutaneous origin, is probably due to a subgluteal lipoma. Here, too, however, a hydroma must be thought of.

A psoas abscess occasionally points in the outer part of the groin (i. e., close to the anterior spine of the ilium). When there is no evident spinal deformity to suggest the diagnosis the swelling is apt to be mistaken for a growth.

Chronic ulcers of the face situated in the area between lines drawn from the outer end of the eyebrow and the upper border of the ear above, and the angle of the mouth and the lobe of the ear below, are usually epitheliomata of the basal-celled variety and they are comparatively non-malignant.—American Journal of Surgery.

## PROCEEDINGS

Of the House of Delegates of the Fortieth Annual Convention of the Colorado State Medical Society, Antlers Hotel, Colorado Springs.

FIRST MEETING HOUSE OF DELEGATES, COLORADO STATE MEDICAL SOCIETY.

Colorado Springs, Colo., Oct. 10, 1910.

The House of Delegates was called to order in the Palm Room of the Antlers Hotel at 8:15 p. m., by President Freeman.

Roll-call by the president showed seventeen present, a quorum. The House then proceeded to the transaction of business.

On motion the reading of the minutes of the last meeting was dispensed with, as they had already been published and were available to all the members.

Secretary Black read his report as follows:

## REPORT OF THE SECRETARY.

The current year of the State Society and all its constituent societies is from January 1st to December 31st.

If the secretaries of the constituent societies would send out notices to their members in January of every year that the dues were payable, and then follow this up with similar notices every month, we should have fewer suspensions, and the secretaries would be ready to make their annual reports promptly. As it is, many secretaries only begin actively to make collections when called upon by this office in August to prepare their annual reports and send them in by September 1st. At this season of the year many of their members are away on vacations and cannot be reached. The result is that the annual reports are delayed and many members are suspended. All this could be avoided if the dues were collected early in the winter, while the society meetings are being held.

One of the courtesies existing between constituent societies is that of not requiring members who join by transfer cards to pay dues for the current year. Some confusion exists through a possible misunderstanding of this rule. When a member moves from one county to another in this state or in some other state he should ask his society to issue him a transfer card or letter showing that his dues are paid for the current year. This transfer card should not be issued unless his dues are paid. The society issuing the transfer is responsible for this man's dues to the State Society and they should be sent at once to the state secretary, together with a notification card, with which all secretaries are provided, showing to what place the member has moved. This avoids all confusion and permits us to keep track of the member and report his change of address promptly to the American Medical Association. Members moving into another county in the state frequently do so without asking for a transfer card or paying their dues for the current year. After moving into their new locations it is not uncommon

that a year or so elapses before application for membership in another society is made. Finally this office is notified that a man who stands suspended on our files has joined one of our constituent societies. We are compelled to notify this constituent society that they have admitted a man who stands suspended in another society for non-payment of dues and that he cannot become a member of their society until his dues for the year in which he is in arrears are paid to the society which suspended him. This often causes friction. The member thinks he is being unfairly treated and the society he seeks to enter is placed in an embarrassing position. It should be a rule with all constituent societies to ascertain whence new members come, and to require that they present certificates of "good standing" from the societies in which they last held membership. All this proves the advisability of collecting dues early in the year rather than after the year is half over, since then there would not be nearly as much opportunity for members to move away, leaving dues unpaid in their former locations.

Secretaries are provided with cards with which to notify this office of any change in their membership, whether the member be newly elected or whether he has resigned, has been suspended, has moved away or has died. These cards are but little used. This office is not being promptly advised of changes in the membership of our constituent societies. New members cannot be placed on the mailing list of "Colorado Medicine" until this office has been properly advised of the new members' credentials, as provided for on the cards mentioned. Members who have moved or who have lost their membership continue to receive "Colorado Medicine" for an unnecessary period of time. This means a monetary loss to this society. A little care and method on the part of the secretaries would save this society several hundreds of dollars each year. When a new secretary is elected, his successor should take pains to instruct him fully as to the duties of his office. Too often we find that he has received no instruction whatever and that he has not even received the records, papers, etc., of his predecessor. It would be interesting to know how many societies in this state could produce the charter granted them by the State Society. I recommend that a circular of information for secretaries be printed and be sent to each secretary in the state with a request that it be pasted in the front of his Record Book for the guidance of all future secretaries.

MELVILLE BLACK, Secretary.

## FINANCIAL REPORT OF SECRETARY.

## Receipts From "Colorado Medicine."

Oct. 29, 1909, from W. A. Jayne, advertising .....	\$ 80.30
Nov. 26, 1909, from W. A. Jayne, advertising .....	74.00
Jan. 20, 1910, from W. A. Jayne, advertising .....	74.50



Feb. 2, 1910, from W. A. Jayne, advertising .....	79.00
March 1, 1910, from W. A. Jayne, advertising .....	51.75
March 21, 1910, from W. A. Jayne, advertising .....	56.00
April 27, 1910, from W. A. Jayne, advertising .....	83.60
June 23, 1910, from W. A. Jayne, advertising .....	102.80
Aug. 9, 1910, from W. A. Jayne, advertising .....	71.60
Aug. 31, 1910, from W. A. Jayne, advertising .....	77.50
Sept. 30, 1910, from W. A. Jayne, advertising .....	76.65
Sept. 30, 1910, from W. A. Jayne, advertising .....	73.65
	<b>\$ 901.45</b>

## Receipts From Reinstatements.

Boulder .....	1	\$ 3.00
Delta .....	1	3.00
El Paso .....	2	6.00
Eastern Colorado..	2	6.00
Garfield .....	14	42.00
Las Animas .....	1	3.00
Mesa .....	3	9.00
Morgan .....	9	27.00
Ouray .....	1	3.00
Otero .....	4	12.00
San Luis Valley...	4	12.00
Teller .....	2	6.00
Weld .....	4	12.00
	<b>47</b>	<b>\$ 144.00</b>

## Receipts From Dues for 1910.

Boulder County .....	44	132.00
Clear Creek .....	8	24.00
Denver .....	266	798.00
Delta .....	20	60.00
El Paso .....	72	216.00
Eastern Colorado ...	3	9.00
Freemont .....	26	78.00
Garfield .....	12	36.00
Huerfano .....	7	21.00
Lake .....	18	54.00
Las Animas .....	21	63.00
Larimer .....	24	72.00
Mesa .....	19	57.00
Montrose .....	10	30.00
Morgan .....	12	36.00
Northeast .....	11	33.00
Ouray .....	6	18.00
Otero .....	20	60.00
Pueblo .....	43	129.00
Prowers .....	12	36.00
Routt .....	12	36.00
San Luis Valley.....	3	9.00
San Miguel .....	3	9.00
San Juan .....	6	18.00
Teller .....	9	27.00
Weld .....	25	75.00
	<b>712</b>	<b>\$2,136.00</b>

## Disbursements.

Amount paid to Treasurer G. W. Miel .....	<b>\$3,178.60</b>
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Amount paid to exchange on checks .....	<b>2.85</b>
	<b>\$3,181.45 \$3,181.45</b>
<b>MELVILLE BLACK, Secretary.</b>	

There were no corrections or comments upon Secretary Black's report and it was referred to the Auditing Committee for consideration of the financial items therein contained.

Secretary Black, for the Committee on Credentials, reported that as Mr. Hanford was out of the state, Dr. Hoagland had been appointed in his place; that Dr. Boyd had been appointed in place of Dr. Calkins, Dr. Burkhard in place of Dr. Jaffa, Dr. Chapman in place of Dr. Barrett, and Dr. Bartelt in place of Swope.

Secretary Black also reported the formation of two new societies, Routt county and Huerfano county.

Dr. Jayne presented the report of Committee on Publication, which, on motion, was referred to a committee composed of Drs. Mayhew, Arneill and Stoddard for action.

## REPORT OF PUBLICATION COMMITTEE.

Denver, Colo., October 5, 1910.

To the House of Delegates of the Colorado State Medical Society:

Gentlemen—The Publication Committee of the Colorado State Medical Society begs to present the following report for the period from September 1, 1909, to October 1, 1910.

Upon the termination of his term of office as a member of this committee Dr. George A. Moleen resigned the editorship of "Colorado Medicine" and Dr. Henry S. Denison was appointed to the position. He served the journal faithfully and well, and during a prolonged vacation abroad Dr. C. B. Ingraham took over the work of editor and gave excellent service until September. On his return, finding it inexpedient to continue his work with the journal, Dr. Denison resigned, and Dr. Leonard W. Ely, recently from New York, who is believed to have the qualifications for an editor, has been appointed to the place.

"Colorado Medicine" has been published regularly on or about the fifteenth of each month, and thirteen numbers have been issued, containing 514 pages of reading matter and 207½ pages of advertising matter. Fifty-six original articles have been published. Forty were read at the last annual meeting and sixteen have been contributed, mostly by members. Officers of county medical societies have been encouraged to contribute regular abstract reports of the proceedings of their societies and such medical news of their locality as available. Volume 6, ending December, 1909, contained 488 pages.

The committee has endeavored to make the journal serve the interests of the Society and its members in every possible way, to make it the medium of medical information throughout the state and to keep its educational value as high as the means at command would allow. With a view of encouraging an increased mem-

bership of our county medical societies, a double edition of the November number was issued and a copy sent to every practitioner in Colorado whose name and address could be obtained.

The total cost of publication was \$2,436.73 for thirteen numbers, an average of \$187.44 per issue or, if the cost of the extra numbers in November (\$118.50) is deducted, an average of \$178.33 per issue, which includes editor's salary, postage, stationery and all other incidentals. This total is proportionately greater than last year, and is due to the increased cost of labor, a larger journal, a more expensive cover, and certain extra charges by the printer. The net receipts from advertising were \$901.35, an increase of \$212.42 over that reported last year. The net cost of the journal to the Society was, therefore, \$1,535.38 for thirteen numbers, or an average of \$108.99 per issue, against \$108.94 last year. It is believed that the net receipts from advertising may be materially increased, and that they should be made to bear a much larger proportion of the cost of publication, if not the total cost. Arrangements have been effected for a greater effort in this direction during the coming year. The bills for advertising have been well collected, and the loss through bad bills has been less than \$25 for the year.

The right of such state society journals as *Colorado Medicine* to second class postal rates when carrying advertising matter is being questioned by the postal authorities at Washington. Should *Colorado Medicine* be denied the privileges of this postal rate it would work a great hardship upon the Society and might make the cost of mailing prohibitive, and prevent us from carrying on the publication successfully. A bill, known as the Dodd bill, is now before Congress amending the postal laws to give the needed relief. This bill was passed by the House unanimously, and was sent to the Senate so near the adjournment that it was not acted upon. As it will come up for consideration by the next Congress, the Committee recommends that resolutions be passed by this Society advocating its passage, and requesting our representatives in Congress to favor and vote for it, and that all members of the Society shall use their influence to that end.

Very many members of the Society have contributed generously to the success of *Colorado Medicine*, and the officers and members of county societies have given the Committee their cordial co-operation and assistance. The editors and the Committee desire to acknowledge this material aid with gratitude and thanks for the share they have taken in making *Colorado Medicine* what it is and what it stands for.

Respectfully submitted,

W. A. JAYNE,  
MELVILLE BLACK,  
HENRY W. HOAGLAND,  
Committee.

Dr. Tennant presented the report of the Committee on Public Press. On motion the

report of this Committee on Public Press was referred to a committee composed of Drs. Hall, Gilbert and Hickland.

Secretary Black read the report of the Committee on Scientific Work.

#### Report of Committee on Scientific Work.

As a result of its labors, the Committee desires to present the completed program. It was decided to return this year to the volunteer program, with the morning and afternoon sessions. The Society is not so large that we are compelled to have section meetings. If the present plan is preferred we should be glad if members would so express themselves, for the guidance of the Committee who will have charge of the work next year. It will be observed that each session is unusually full, and that in consequence the discussion, if prolonged on some papers, may make it impossible for all papers to be read. In order to avoid confusion we would recommend that each session be distinct and separate. Papers not read from lack of time should be read by title unless vacancies later on in the program make their presentation possible, when the President, at his discretion, may call for the essayists to read their papers in their order of omission.

Ophthalmological papers were omitted from the program, because we were assured that the Colorado Ophthalmological Society had planned to hold its October meeting in Colorado Springs during the meeting of the State Society. The members of the Ophthalmological Society who reside in Colorado Springs, after seeing the program, decided against holding the ophthalmological meeting as planned. Their decision came too late for us to provide any ophthalmological papers. All we can do, therefore, is to apologize to the ophthalmological members of the society for having depended upon another society to do what we should have been only too pleased to do ourselves.

J. N. HALL, Chairman;  
HENRY SEWELL,  
MELVILLE BLACK.

Secretary Black offered the following resolution, which was unanimously adopted:

Resolved: That the Colorado State Medical Society urgently petitions the National Congress to consider the vital importance of protecting the public health and improving national efficiency by the immediate passage of a bill providing for a National Department of Health; and further, by a strict interpretation of the Pure Food and Drugs Act, whereby the use of artificial chemical preservatives is prohibited in the preparation of food stuffs designed for human consumption, and through any other channels which will protect human beings as effectively as cattle are now protected by the Department of Agriculture.

Dr. Hill presented the report of the Committee on Necrology.

#### STATEMENT.

Summary of Advertising Accounts, *Colorado Medicine*, for Period from September 1st, 1909, to October 1st, 1910.

Collected by D. & E. Zimmerman, Sept. 1st, 1909, to Aug. 5th, 1910:

Reported Nov. 5, 1909....	\$161.95
Reported Nov. 29, 1909....	77.65
Reported Feb. 12, 1910....	277.25
Reported April 25, 1910....	294.25
Reported June 17, 1910....	158.30
Reported Aug. 5, 1910.....	190.60

Total by Mr. and Mrs. Zimmerman .....	\$1,160.00
Reported by W. A. Jayne.	31.95

Total collected from advertising for one year \$1,191.65  
(Net receipts, one year, \$751.05.)

Reported by W. A. Jayne during Sept., 1910 .....	150.30
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Total collected for 13 months .....	\$1,341.95	\$1,341.95
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Due Mr. and Mrs. Zimmerman on last year's account .....	\$2.60
35 per cent. commission on \$1,160 collected .....	406.00
Commission on "ad" contracts in force and paid in advance on termination of agreement as per terms of same .....	32.00
	440.60
Total commissions paid.	\$440.60
Net receipts of Colorado Medicine for advertising, 13 months.....	\$901.35

#### Comparative Summary.

Total cost last year 12 issues), with editor's salary, \$1,996.25; average cost per month, \$166.35. Total cost this year (13 issues), with editor's salary, \$2,436.73. Net cost (less advertising) last year, \$1,307.32; this year (13 issues), \$1,535.38. Average cost per issue, last year, \$166.35; this year, \$187.44. Average cost per issue this year, deducting extra cost extra edition, \$178.33. Deducting amount received from advertising and cost of extra edition, the average net cost to Society was, last year, \$108.94; this year, \$108.99.

#### Report of Committee on Necrology, October 9, 1910.

Since last we met eight of our members and friends, in the prime of life, have crossed the Great Divide to that bourn whence no traveler returns. We miss their presence, and we cherish their memory. May they rest in peace!

Dr. Lafayette L. Davis of Wiley, a member of Prowers County Medical Society, died of cerebral apoplexy, March 25, 1910.

Dr. B. K. Ellis, formerly of Greeley, died at his home at Rock Valley, Iowa, early this year.

Dr. Carey K. Fleming, former secretary of this society, and a valued member of the Medical Society of the city and county of Denver, died from cerebral hemorrhage, September 24, 1910, aged 46.

Dr. Charles D. Jackson, a young and promising member of the Denver society, was

killed last year by a tramway car while he was riding a bicycle. He was 31 years of age.

Dr. O. J. Mayne, a well known railway surgeon at Como, and a member of the Lake County Medical Society, died of Bright's disease, August 10, 1910, aged 46.

Dr. G. A. Moulton of Alma, another member of Lake, who had practiced 20 years in Colorado, died in his fiftieth year.

Dr. C. N. Potts of Silverton, member of the San Juan County Medical Society, succumbed to heart distase, February 2, 1910, at the age of 55.

Dr. Charles B. Richmond, member of the Denver Medical Society, who had practiced 27 years in Colorado, surrendered to the inevitable (gastric cancer), July 1, 1910, in his fifty-sixth year.

#### EDWARD C. HILL, Chairman.

On motion, the house proceeded to the election of a Nominating Committee, and the following were duly elected as such committee: Drs. Hoagland of Colorado Springs, Hall of Denver, Stoddard of Pueblo, Church of Greeley, Boyd of Leadville.

Secretary Black reported the following communication from the Prowers County Medical Association. On motion of Dr. Jayne, this was referred to the Credentials Committee for consideration and report.

(The communication was in the form of a question as to how long a man who is a member of a society in one county can reside in the jurisdiction of a society in another county, without becoming a member of it.)

The meeting then adjourned until eight o'clock the next morning.

#### SECOND MEETING OF THE DELEGATES,

Tuesday, October 11, 1910.

The House of Delegates was called to order by President Freeman at eight o'clock a. m.

On roll-call the Secretary announced a quorum present.

The minutes of the last meeting were read and approved.

Dr. Harlow read the report of the Committee on Medical Education. After this report Dr. Stover addressed the meeting, urging especially the co-operation of all members of the profession in the passage of the proposed constitutional amendment.

The report follows:

#### Report of the Committee on Medical Education

In making a report on medical education for the State of Colorado, it will first be necessary to consider the problem obtaining at the present time in the entire United States. Within the last year or two comparisons have been made between medical education in this country, on the one side, and European countries on the other side, and it must be admitted with considerable discredit to American institutions. Investigation by numerous associations and committees, notably the report of the Carnegie Commission, has resulted in criticisms and suggestions, and at the present time it is fair to state that a general action of reconstruction is now well under way. Particu-

lar attention has been paid to three separate parts of the subject. Numerous committees have taken up the matter of preliminary education, starting from a basis of poorly enforced four-year high school requirement on up to two years of college work, or possibly the requirement of a degree in literature, science and the arts.

Second, the matter of curriculum has been considered by numerous committees, resulting in changes in the number of hours to be devoted to laboratory work, to clinical demonstrations and to didactic work.

Third, in many states there have been consolidations of one or more schools, resulting in the establishment of one strong school in the district.

There have been many associations with separate interests and working along somewhat different lines, sometimes, unfortunately, slightly at cross purposes, but resulting in a trend toward a common end. For instance, the Association of American Medical Colleges has thoroughly canvassed the matter of preliminary education and has taken two years of careful investigation of the conditions of teaching in the various medical schools before presenting their revised recommendation of curriculum. The first and second years' curriculum was worked out something over a year ago by that committee, they requested more time and the appointment of a sub-committee. The combined committee finished the work on the curriculum for third and fourth year teaching, and the whole report was presented at the last meeting in Chicago last spring.

Entirely independent of this college association committee, one hundred of the foremost educators of the United States, working under ten chairmen of the various groups, and all under the jurisdiction of a council of medical education of the American Medical Association, have lately presented their report based on at least one year's college work, including studies in physics, biology and chemistry, and giving a complete division of the work in laboratory, lectures and clinics, and presenting their arguments in the various committees, showing the reasons for their attitude.

From an entirely different standpoint the attempts of medical educational institutions toward higher requirements and better education in medicine per se have been bolstered up by the action of a number of state boards. For instance, many examining and licensing boards have given notice that on and after certain dates they will require that the applicant for licensure shall have had a definite number of hours in physics, chemistry, biology, English and one modern language in an accredited college, and in addition a medical course of four years' registration in recognized medical schools, with a minimum course of thirty-two teaching weeks, before they may be admitted to practice in said state. The action of these various bodies has resulted in the bolstering up of medical education, including the preliminary requirements, in all parts of the country. It is pleasing to note that the State of Colorado is conforming with such

activities so far as is in her power under the conditions obtaining at the moment. For instance, two years ago notice was given by two of the three schools then teaching medicine in the state, that on and after September, 1910, one and two years respectively of work in an accredited college would be required before entering the candidate in the freshman class. The exact work to be done was not stipulated, it not being deemed advisable to make requirements too rigid so early in the game, but it was suggested that the student prepare himself in physics, chemistry, zoology, psychology, English and one modern language, with the intention of eventually making these subjects absolute requirements.

Since our last meeting, the trustees of the Denver and Gross College of Medicine and the regents of the State University have signed a contract whereby on or before January 1, 1911, Denver and Gross College of Medicine will cease teaching medicine in the state and will become a part of the medical department of the State University. At the present time teaching of first and second year medicine is done only by the University of Colorado at Boulder, freshman students entering this year and hereafter being required to present evidence of two years' college work in literature, science and the arts. Third and fourth year classes in medicine are being taught at Denver by the Denver and Gross faculty, and third and fourth year classes in medicine are being taught at Boulder by the University of Colorado faculty. The schedule has been so arranged that one duplicates the work of the other and there will be no difficulty in combining these two third year classes and the two fourth year classes at any time during the year.

The laws of the state do not permit the University of Colorado to teach medicine anywhere except in Boulder. With a desire to correct this hardship on our state institution, an amendment to the State Constitution was passed by the last General Assembly, giving permission to teach all except the first and second years in medicine by the University of Colorado in Denver. This "educational amendment" will be voted upon at the coming general election in November. If the amendment is defeated, it means that all four years in medicine in the state will have to be conducted at Boulder under limited clinical and dispensary advantages by virtue of the comparatively small population. If the amendment is passed by the people, it means teaching of first and second year medicine at Boulder with excellent laboratory facilities, a full corps of full-paid, competent instructors in the scientific branches of medicine, and the giving of the third and fourth year in medicine by the combined faculty of the Denver and Gross College of Medicine and the University of Colorado in Denver with its superior clinical advantages.

We consider that the passage of this "educational amendment" giving our State University the desired rights, is the end of the first step in the problem confronting us, i. e., we

are simply permitted the opportunity of endeavor. The second part of the story will be the actual building up of a strong medical school in the Rocky Mountain West. To this end we desire numerous clinics in our several hospitals, where proper surgical procedures may be demonstrated to our students, where medical treatment may be outlined on actual cases, where bedside instruction may be given and where laboratory diagnoses may be gone through by the students. Along the same line, an adequate dispensary is a necessity where, under the direction of professors in their various departments of medicine and surgery, students may diagnose and treat diseases in our worthy poor. The two conditions named above should be obtained without material trouble in the immediate future. It is perhaps a little bit more difficult to provide an adequate teaching hospital in which all cases shall be received and treated for the benefit of the students in our schools. This is something very much to be desired and State sentiment probably will have a great deal to do with bringing about the desired conditions, and to that end we sincerely request your support both in working for the passage of the "educational amendment" before the people at the coming election, and in supplying us with interesting clinical cases, pathological specimens, support, etc., believing that it will be only through the united efforts of the medical profession of the entire state that we will be enabled to build up a medical school which will be the strongest between Chicago and San Francisco, and one meritorious of place in the first rank of the medical schools of our country.

W. P. HARLOW.

Mr. President and Gentlemen: Your committee appointed to receive and report upon the report of the Publication Committee recommend that the monetary accounts presented by that committee should be submitted with all other accounts to the regular Auditing Committee.

We recommend the adoption of the following resolutions pertaining to postal laws:

#### Resolutions Pertaining to Postal Laws.

Whereas, The postal laws now in force clearly indicate that it has been the intent of the Congress of the United States to encourage the diffusion of scientific knowledge by the publication of journals by societies devoted to the various special sciences; and

Whereas, Under the postal laws, journals published by scientific and other societies are specifically given the right and enjoyment of second class postal rates, provided that they are not designed primarily for advertising purposes or free circulation, and are "published to further the objects and purposes of such society"; the Postal Act of 1894 having been passed to relieve such journals of the technicalities sought to be enforced under the act of 1879; and

Whereas, The Post Office Department has interpreted the law of 1894 as not allowing such journals the right of second class postal

rates when carrying advertisements, and is seeking by departmental regulations to enforce this interpretation, to the serious detriment of various societies throughout the United States and their journals which have long enjoyed these privileges unquestioned; and

Whereas, The rights of journals of various state medical societies to second class postal rates are being questioned, and if denied these postal rates the same may be denied Colorado Medicine, to the great detriment and cost of this journal and the Colorado State Medical Society; and

Whereas, A bill known as the Dodd's Bill has been introduced before Congress designed to amend the postal law and give the needed relief from this ruling of the Post Office Department, which bill was unanimously passed by the House of Representatives toward the end of the first session of the present Congress and is now before the Senate for consideration; now, therefore, be it

Resolved, That the Colorado State Medical Society, in meeting assembled, does hereby most emphatically indorse the Dodd's Bill for prompt adoption by Congress; and this Society respectfully requests the Senators and Representatives from Colorado to do all possible to favor and assist the early passage of this measure, and to use their influence in delaying the enforcement of this ruling by the officers of the Department until Congress shall have had an opportunity at the next session of finally acting on the matter; and

Resolved, That a copy of these resolutions be forwarded to each member of the House of Representatives and the Senate from Colorado, and that all members of this Society will exercise all proper influence to effect the amendment of the postal laws and the adoption by Congress of the Dodd's Bill.

Adopted unanimously.

Colorado Springs, Colorado,

October 12, 1910.

We further recommend that a special committee be appointed to carry out the spirit of these resolutions.

We recommend the adoption of the report of the Publication Committee.

D. P. MAYHEW,  
T. A. STODDARD,  
J. R. ARNEILL.

Treasurer Miel's report was then read, and referred to the Auditing Committee.

Report of Treasurer Colorado State Medical Society, September 14, 1909, to October 11, 1910.

#### RECEIPTS.

Balance on hand September 14, 1909	\$1,687.91
From Secretary, through dues	2,277.15
From Secretary, through Journal	901.45
Interest earned	15.00

#### DISBURSEMENTS.

Committee Public Policy and Legislation	
Nov. 3—Merchants Pub.	
Co., slips printed	\$2.45
Press Committee.	

1909.

Oct. 9—Dr. C. E. Tennant,

Chairman, expense incurred during year previous to Sept. 14, 1909..	\$17.85		
1910.			
Jan. 10—Dr. C. E. Tennant, Chairman, postage stamps .....	\$10.00		
Jan. 10—Kistler Stationery Co., stationery and postals .....	20.00		
Mar. 15—A. R. Tucker, printing circular letter..	2.00		
Mar. 15—Dr. C. E. Tennant, Chairman, postage stamps .....	10.00		
Apr. 18—Emma C. Wenden, typewriting .....	20.00		
May 12—Kistler Stationery Co., printing circular .....	3.00		
May 12—Kistler Stationery Co., postals .....	3.75		
May 12—Kistler Stationery Co., files .....	.81		
May 12—E. L. Wepf, reprints (20 lots) .....	22.75		
July 12—E. L. Wepf, envelopes .....	2.50		
Oct. 10—Dr. O. D. Wescott, stamps and printed postals .....	4.34	\$117.00	
Journal Maintenance.			
1909.			
Sept. 20—Eastwood, Kirchner Printing Co., Sept. edition .....	\$118.75		
Oct. 4—Merchants Pub. Co., envelopes and letter heads .....	5.25		
Oct. 8—Merchants Pub. Co., printed stationery..	10.25		
Nov. 3—Merchants Pub. Co., Oct. edition .....	180.00		
Mailing list printed .....	20.00		
Dec. 3—Merchants Pub. Co., Nov. edition .....	284.00		
1910.			
Feb. 3—Merchants Pub. Co., Dec. edition .....	148.06		
Feb. 3—Merchants Pub. Co., Jan. edition .....	133.10		
Mar. 1—Merchants Pub. Co., Feb. edition .....	149.81		
Apr. 5—Merchants Pub. Co., March edition.....	155.10		
May 26—Merchants Pub. Co., April edition.....	177.00		
May 26—Merchants Pub. Co., May edition.....	138.00		
July 2—Dr. W. A. Jayne (reimbursed), June edition .....	155.95		
July 23—Western Newspaper Union, July edition.	149.00		
July 23—Curran Distributing Co., July edition...	2.50		
Aug. 19—Western Newspaper Union, Aug. edition.	148.00		
Aug. 30—Curran Distributing Co., Aug. edition...	2.50		
Aug. 30—Dr. Henry S. Denison, editor's salary, Sept. 15, '09, to Apr. 15, '10 .....	175.00		
Postage expended .....	3.00		
Aug. 30—Dr. C. B. Ingraham, editor's salary, Apr. 15 to Sept. 15, '10..	125.00		
Postage expended .....	1.76		
Thirteenth Month.			
Sept. 23—Western Newspaper Union, Sept. edition .....	152.00		
Sept. 23—Curran Distributing Co., Sept. edition..	2.50	\$2,436.73	
GENERAL EXPENSES.			
1909.			
Oct. 4—Merchants Pub. Co., stamped envelopes.	\$24.20		
Oct. 8—Merchants Pub. Co., letter heads .....	7.00		
Dec. 1—Doyle, Hart & Gehman, stenography, 39th meeting .....	245.00		
1910.			
Apr. 28—Dr. M. Black, account cards and sheets purchased from American Medical Ass'n, and express .....	6.65		
Sept. 23—Carson - Harper Co., programs for 40th meeting .....	57.00		
Oct. 6—Dr. Melville Black, salary as Secy.-Treas...	200.00	\$539.85	
Total receipts .....		\$4,881.51	
Total disbursements .....		3,096.03	
Cash balance .....		\$1,785.48	
Respectfully submitted,			
GEORGE W. MIEL,			
Treasurer.			
Dr. Stover presented the following resolution:			
Resolved, By the Colorado State Medical Society, that the consolidation of the Denver and Gross Colleges of Medicine and the School of Medicine of the University of Colorado is the most important advance in medical education in the Rocky Mountain region, and the constitutional amendment before the people for adoption at the November election permitting the teaching of medicine in Denver by the University of Colorado should receive the hearty support of all members of this society and of the voters of the state.			
On motion of Dr. Chipman, this resolution was unanimously adopted.			
The meeting then adjourned until eight o'clock the following morning.			
THIRD MEETING, HOUSE OF DELEGATES			
Wednesday, October 12, 1910, 8 O'clock A. M			
The meeting was called to order by President Freeman.			
Roll-call by the Secretary showed a quorum present.			
Minutes of the last meeting were read and approved.			
Report of Dr. Jackson as delegate to the			

American Medical Association was read and the report accepted.

The report follows:

#### Report of Delegates to the American Medical Association.

The work of the House of Delegates of the American Medical Association at the meeting of 1910 has been published in full in the Journal of the association, June 11th, pages 1963 to 1988, and June 18th, pages 2069 to 2090. The report would fill an octavo volume of more than 300 pages. It is not necessary here to give even an outline of it, for 798 copies of the Journal are received by physicians in Colorado, while the membership of this society is but a little over 800, so that the full report is accessible to all who are sufficiently interested to consult it.

The unanimous re-election of Dr. George H. Simmons as General Secretary of the association, in spite of his request, endorsed by the Reference Committee on Reports of Officers, that he should not be again chosen, was a dramatic event, which is accurately described in the minutes (p. 2074). It was the only echo in the House of Delegates of the attacks on Dr. Simmons which had furnished opportunity for sensational head lines in the St. Louis daily papers. Although Dr. Simmons has accepted the position for the current year, his conviction that the time has come for a change, and the separation of the office from that of editor of the Journal still stands. It is hoped that at the next annual meeting the right man will be found to take up the Secretary's work, without interruption of the remarkable progress the association has made during the eleven years Dr. Simmons has held the office. In that time the membership has increased from 8,445 to more than 33,000, and the membership of affiliated societies to over 70,000. The increase in the circulation of the Journal has been equally remarkable, from 13,078 January 1, 1900, to an average of 55,361 per week for the last year.

The fight against the officers of the American Medical Association on account of the policy of exposing the false pretensions of those engaged in exploiting certain proprietary drug mixtures which are placed in an unfavorable light by the reports of the Council on Pharmacy and Chemistry, no longer disturbs the meetings of the House of Delegates. But the St. Louis meeting furnished reminders that it has not been given up, and will not cease so long as incomes derived from "patent medicines" are impaired by the policy pursued by the association. Wherever individual members will lend themselves to making trouble in local medical societies, or state societies can be induced, by offers of financial advantages, to give countenance to medical journals that live by the indiscriminate advertising of proprietary preparations, such agencies will be used to discredit the American Medical Association and all who loyally carry out its policies.

Despite the eloquent advocacy of Senator Owen, the powerful support of President Taft

and the favor of many of the most influential members of Congress, the bills for the creation of a department or bureau of public health in the last Congress met with strenuous opposition. Many thousands of dollars were spent on the newspaper advertising of falsehoods and appeals to all kinds of prejudice to secure lists of names of those who could be induced to oppose such legislation, because it had the endorsement of the American Medical Association, although in no way promoting our professional interests. Notice has thus been served that all legislation recommended by the American Medical Association is to be strenuously opposed. As pointed out by the report of the Committee on Organization, "It soon became known that back of all this clamor were the 'patent medicine' people, food adulterators and other interests naturally at enmity with pure drugs, pure food and honesty and decency of method in all such matters, organized into an unholy, corrupt, but futile conspiracy to mislead the people, and to break down the profession." Another method by which the enemies of our profession hope to cripple our association is through the withdrawal of second-class postal rates from the Journal of the American Medical Association, and from those state society journals that pursue a similar policy toward the advertisement of proprietary preparations. Because certain interests are no longer able to find mouthpieces in the House of Delegates, we must not for an instant suppose that the struggle with them is over. The challenge has been issued and in the resolutions offered by the Committee on Reports of Officers and adopted by the House of Delegates (p. ?) has been accepted on the part of the American Medical Association, and the fight will go on.

Among the many important matters that came before the St. Louis meeting we call especial attention to the accounts of the work of the Council on Pharmacy and Chemistry, and the detailed information regarding the finances of the association in the report of the Trustees.

The Committee on Medical Legislation reported on both national and state laws proposed or adopted during the year. This committee is to be reorganized on what, it is hoped, will be more efficient lines. The report of the Council on Medical Education divides into three classes the medical schools of the country: those that are satisfactory, in which class are our Colorado schools; those which can be rendered satisfactory by certain changes, and those which could only be made satisfactory by complete reorganization. It also presents graphically the requirements of the different states for the license to practice, with regard to preliminary education, the standing of medical colleges, inter-state reciprocity, the character of the licensing boards, and the laws with regard to osteopathy. In this relation the action opposing the attempts of the so-called optometrists to secure legal recognition as qualified to diagnose and treat a large portion of ocular and related diseases,

should be noted. It was agreed that the publication of a history of so-called optometry and optometry colleges would be an effective way of opposing the attempt to create by legislative enactments a sort of pseudo profession.

The report recommending the formation of an organization to establish and administer a relief fund and tuberculosis sanitarium for physicians received favorable attention, and the continuance of the work of the committee has been provided for by the Trustees.

At the instance of the sections interested, the Trustees have been authorized to establish special scientific journals on surgery and pediatrics. The Director of Post-Graduate Study reported his progress in the preparation of the fourth year course. The Committee on Pharmacopoeia reported long lists of recommendations for the forthcoming revision. The Committee on Ophthalmia Neonatorum made an extended report, and obtained authority to broaden the scope of their work toward the general prevention of blindness. The report of the Committee on Uniform Regulation of Membership deserves careful study on the part of the officers of state and county medical societies.

The selection of Los Angeles as the place of meeting of the American Medical Association next year makes it incumbent on western members to do all they can for the success of the meeting; to attend that meeting will be for many members of this society both a duty and a pleasure.

In conclusion, we again call attention to the enormous amount of information contained in the reports made to the House of Delegates, and the discussions and action thereon, as printed in the minutes, and urge their more general reading as the best method of keeping in touch with the organized life of the American medical profession.

Respectfully submitted,  
EDWARD JACKSON.

The Nominating Committee's report was presented by Dr. Boyd, as Chairman. The nominations reported by that committee were as follows:

President,

Dr. W. H. Swan, Colorado Springs,

Dr. William Singer, Pueblo.

First Vice-President,

Dr. T. E. Carmody, Denver.

Second Vice-President,

Dr. M. J. Keenie, Pueblo.

Third Vice-President,

Dr. J. H. Cole, Yampa.

Fourth Vice-President,

Dr. Samuel French, Meeker.

Councillors. Term expires

Dr. E. S. Hadley, Telluride .....1914

Dr. C. F. Gardner, Colorado Springs.....1915

Dr. E. A. Whitmore, Leadville .....1915

Dr. J. C. Chipman, Sterling .....1911

Delegate A. M. A.,

Dr. Edward Jackson, Denver,

Dr. H. T. Pershing, Denver.

Publishing Committee,

Dr. C. S. Elder.

Place of meeting next convention (September, 1911), Steamboat Springs.

On motion of Dr. McGraw, the report of the Nominating Committee above was adopted.

Dr. Hall made the following report for the Committee on Reports of the Press Committee, which, on motion of Dr. Chipman, was adopted:

Your Committee on Report of the Press Committee wish to report as follows: That we heartily approve of the suggestion that a national press bureau be established under the auspices of the A. M. A., and we recommend that the present Press Committee be continued and authorized to perfect plans to this end.

We also recommend that an appropriation be made to defray the expenses to be incurred in connection therewith.

J. N. HALL, M.D.,  
W. A. KICKLAND,  
O. M. GILBERT.

Dr. Mayhew presented the report of the Committee on Report of the Publication Committee, which, on motion of Dr. Boyd, was adopted.

Secretary Black, for the Credentials Committee, reported that the constitution and by-laws of the Huerfano County Medical Society and the Routt County Medical Society had been examined and found not to be in conflict with the constitution and by-laws of the state society, and recommended that the two societies be granted charters. There being no objection, this report was adopted, and it was so ordered.

On motion of Secretary Black, duly seconded, the Chairman appointed as Committee on Appropriations Drs. Packard, Denver; Shippey, Saguache, and Kickland, Fort Collins.

On motion of Dr. Stoddard, duly seconded, the following committee was appointed on matter of postal rates: Drs. Jayne, Elder, Black.

Report of Committee on President's Address was presented by Dr. Arneill, and there being no objections, the report was accepted.

The report follows:

Report of Committee on President's Address.

Your committee wishes to report favorably on the recommendations of President Freeman made in the annual address. We would recommend that the Colorado State Medical Society continue to keep its books and journals in the library of the Medical Society of the City and County of Denver, and suggest that this matter be referred to a suitable committee. We also urge that all members of this society heartily support the amendment of the constitution permitting the State University to teach the last two years of the medical course in Denver.

P. J. McHUGH,  
J. N. HALL,  
J. R. ARNEILL,

Committee on President's Address.

Dr. Hill presented the following resolution and moved its adoption:

Resolved, By the House of Delegates of the Colorado State Medical Society: That we appreciate the good work of our State Board of



Health, particularly of its efficient Secretary, in keeping accurate vital statistics and in the execution of the Pure Food and Drug Law, and we ask that the present President of this association appoint a committee of three of our members to wait upon the incoming Governor, to the end that there may be no retrogression in these important matters.

The resolution was adopted by unanimous vote and Drs. Hill, Gilbert and Arneill were appointed as such committee.

Secretary Black presented and moved the adoption of the following amendment to the by-laws, that the section concerning Committee on Public Policy and Legislation be made to read as follows:

"The Committee on Public Policy and Legislation shall consist of one member from each constituent society, except Denver, from which three members shall be appointed."

This motion was seconded by Dr. Stoddard of Pueblo, and prevailed.

On motion of Dr. Lazell, seconded by Dr. Burkhard, the House of Delegates, by unanimous vote, authorized the Medical Library of the City and County of Denver to accept, receive and care for (as a loan) the books owned by the Colorado State Medical Society, accumulated through Colorado Medicine.

Dr. Church presented for consideration the question of a physician's protective league, which was discussed by the delegates. No action was taken.

The inquiry presented from the Prowers County Medical Society for a ruling upon how long a man can be a resident of a county and pay society dues in another county, was then taken up. After discussion Dr. Chipman presented the following resolution, which was seconded by Dr. Boyd:

That when a member of a constituent society of the Colorado State Medical Society moves into the jurisdiction of another society, in order to retain his membership in this society he must become a member of the new society within one year.

This resolution was adopted unanimously.

An adjournment was thereupon taken until eight o'clock the next morning.

#### FOURTH MEETING, HOUSE OF DELEGATES,

Thursday, October 13, 1910, 8 O'clock A. M.

The House of Delegates was called to order by President Freeman.

On roll-call, the Secretary announced a quorum present.

Minutes of last meeting were read and approved.

The report of the Nominating Committee was taken up, and no further nominations being offered, on motion of Dr. Black, seconded by Dr. Kickland, the nominations were closed.

Dr. Stoddard announced that he had been requested by Dr. Singer of Pueblo to withdraw the name of the latter from consideration for place of President of the society for the ensuing year, and there being no objection, this withdrawal was allowed.

On motion of Dr. Mayhew, seconded by Dr. Burkhard, and carried unanimously, the Secretary was instructed to cast the ballot of the members present for the names for the various offices for the ensuing year as reported by the Nominating Committee.

Thereupon the Secretary reported that the unanimous vote of the house had been cast for the following officers:

President,  
Dr. Swan, Colorado Springs.  
First Vice-President,  
Dr. T. E. Carmody, Denver.  
Second Vice-President,  
Dr. M. J. Keenle, Pueblo.  
Third Vice-President,  
Dr. J. H. Cole, Yampa.  
Fourth Vice-President,  
Dr. Samuel French, Meeker.

Councillors, Term expires  
Dr. E. S. Hadley, Telluride ..... 1914  
Dr. C. F. Gardner, Colorado Springs ..... 1915  
Dr. E. A. Whitmore, Leadville ..... 1915  
Dr. J. C. Chipman, Sterling ..... 1911  
Delegate A. M. A.,  
Dr. Edward Jackson, Denver,  
Dr. H. T. Pershing, Denver.  
Publishing Committee,  
Dr. C. S. Elder.

Place of meeting next convention (September, 1911), Steamboat Springs.

The report of Auditing Committee was presented, as follows:

To the Officers and Members of the House of Delegates:

We, the Auditing Committee, have checked over the books and reports of the Secretary, Treasurer and Press Committee, and find them correct and in very good form.

The Treasurer's books show the following:

Cash on hand, Sept. 14, 1909 .....	\$1,687.91
Receipts from all sources, from Sept. 14, 1909, to Oct. 10, 1910 .....	\$3,181.45
Deducting exchange on checks .....	2.85

Leaving net receipts .....	\$3,178.60
Interest on Savings Fund .....	15.00

Total .....	\$4,881.51
Deducting disbursements on all accounts .....	3,096.03

Leaving cash on hand .....	\$1,785.48
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Of this amount \$1,000 is deposited in the savings fund of The International Trust Company of Denver, drawing interest, in their savings account No. 18,047, and the balance of \$785.48 is in check account in the same institution.

We are pleased to commend the care and accuracy exhibited in keeping the accounts, books and papers of your financial officers, which has very materially simplified and expedited the Auditor's work.

Your attention has been directed to the matter of \$2.85 exchange on local checks from some of the outlying counties, and which is conceded to be a direct and unnecessary loss

to the State Society and of no advantage to the constituent society. Therefore we recommend that hereafter secretaries of county societies shall remit to the State Society only in funds current at par in Denver, or wherever the bank account is kept.

Respectfully submitted,

CHARLES H. CALL,  
E. D. BURKHARD,  
W. T. LITTLE.

On motion of Dr. Stover, seconded by Dr. Stoddard, the report of the Auditing Committee was accepted.

Secretary Black read the report of the Antitoxin Committee, as follows:

**Report of the Antitoxin Committee.**

Your committee would respectfully report that although both houses of our Legislature unanimously passed a bill making an appropriation for the free distribution of antitoxin to the people of Colorado, yet our Governor placed it in a class where it has been unavailable. On account of the expense of the extra session, it is not at all likely that it ever will be.

The only explanation the State Auditor would make to the chairman of this committee was that there had been no money with which to pay this appropriation. He promised, however, if there should be it would be paid, otherwise it would not be.

Your committee would respectfully request that it be discharged.

P. E. WAXHAM,  
W. W. GRANT,  
WM. C. BANE.

On motion of Dr. Mayhew, seconded by Dr. Kickland, the report of the committee was accepted and the committee discharged.

Report of Committee on Appropriations was presented by Dr. Kickland, as follows:

**Appropriations for Coming Year.**

For Colorado Medicine .....	\$1,424.00
For Colorado Medicine editor.....	300.00
For Secretary .....	200.00
For printing and mailing programs..	60.00
For Press Committee .....	100.00
For Committee Public Policy and Legislation .....	100.00
For emergency fund and incidentals.	50.00

**\$2,234.00**

W. A. KICKLAND,  
Chairman of Committee.

On motion of Dr. Stoddard, duly seconded, the report was adopted.

Secretary Black stated that the amendment to Section 4 of Chapter 10 of the By-Laws, changing the wording as to the Press Committee, and providing for three members from Denver, was held over from yesterday until this morning, and moved the adoption of the amendment. This motion was seconded by Dr. Finnucane, and was carried by unanimous vote.

On motion of Dr. Kickland, duly seconded by Dr. Stover, Dr. Hall was appointed as a committee of one to draft appropriate resolutions on the death of the late Dr. Fleming.

The meeting then adjourned.

**MINUTES OF GENERAL SESSIONS.**

**First Day, Tuesday, October 11th, 9 A. M.,**

**Antlers' Hotel, Colorado Springs.**

The meeting was called to order by President Freeman. The first number on the program was a symposium on "The Pancreas." With the exception of one, all the essayists were present on the morning program. The afternoon session was called to order by the President at 2:15. The first number on the program was the President's address, followed by six papers, the essayists all being present to read them in person. The morning session of the second day was called to order by the President at nine o'clock. There were six papers on the program; none of the essayists was absent. The afternoon session was called to order by the President. There were eight papers on the program, and, with one exception, all the essayists were present.

The morning session of the last day was called to order by the President at nine o'clock. There were seven papers on the program, all essayists being present. The afternoon of the last day was called to order by the President at two o'clock. This was the clinical afternoon. There were eleven on the program, and, with one exception, all were present. In addition, Dr. Markley presented two interesting skin cases in the rear part of the hall. Dr. Peters also presented a patient afflicted with Addison's disease. Secretary Black gave an abstract report of the work done by the House of Delegates.

Dr. McLaughlin of Denver presented a resolution on the death of Chief Justice Steele, which was adopted, with directions that a copy of the resolution be sent to the wife and mother of the deceased. Upon the motion of Dr. Hall of Denver a committee of three was appointed by the chair to draft resolutions upon the death of Dr. Fleming, to be sent to his wife and mother.

Many new faces were seen in the audience and many new names were recorded as having entered into the discussions. A number of members from the Utah State Medical Society were present as guests and took an active part in the meeting. The papers were universally well discussed, the discussion of some being so extended that the sessions were very long. The papers were of high excellence, considerable new research work being presented. This meeting will pass into history as the best up to date.

**"OH, BLISSFUL 606."**

Without animal experimentation the discovery and development of this blissful remedy (i. e. 606), would have been absolutely impossible.—N. Y. State Medical Journal.

**WANTED**—Position as surgeon and physician by graduate from New York City Hospital. Single. Age 30. Mining and railroad experience. Also considerable eye, ear and throat work. Western or Southwestern States preferred. F. A. TOWER, Ph.G., M.D., 505 Emerson St., Denver, Colo.

## Constituent Societies

The Medical Society of the City and County of Denver held a regular meeting on the evening of October 4, 1910, at the Academy of Medicine, Dr. C. B. Van Zant presiding.

In the absence of the secretary, Dr. H. R. McGraw acted as secretary pro tem.

The minutes of the last meeting were read and approved. The minutes of a special meeting were also read.

The board of censors reported favorably on the applications of Drs. L. W. Ely, C. O. Elgler, R. A. Hamill and Elizabeth Cassidy. The ballot was taken and all the candidates were elected.

The applications for membership from Drs. A. J. Simpson and J. W. Amessee were read and ordered to take the usual course. (The application of Dr. Simpson has since been withdrawn and the doctor has been reinstated.)

Dr. Sedwick, secretary of the board of censors, read a report finding Dr. D. S. Neuman guilty of unprofessional conduct in connection with an advertisement of Trunk Brothers' Drug Company, which appeared in the Rocky Mountain News-Times, Sunday, January 2, 1910. They recommended that the society reprimand Dr. Neuman for this offense. The report was signed by Drs. Barry, Shere, Sedwick and Libby. Dr. Cooper read a minority report stating that there was insufficient evidence to convict. On motion of Dr. Beggs the matter was laid on the table.

Dr. Levy spoke with reference to the committee on delinquent members. He stated that the report was in the hands of the secretary of the County Society.

Dr. Beggs introduced an amendment to the by-laws and an amendment to the constitution. Dr. Tennant introduced an amendment to the constitution.

Dr. Arneill moved that a committee be appointed to draft resolutions condemning the principle of undertakers acting as coroner. Dr. Grant offered a resolution which was accepted by Dr. Arneill in place of his motion. It was as follows:

"Resolved, That the Medical Society of the City and County of Denver cordially indorse the practice, propriety and principle of electing a physician to the office of Coroner."

Carried.

Dr. Beggs moved that the committee on public health and legislation be instructed to bring in a strong resolution opposing the habit of electing undertakers as Coroner and favoring the election of physicians to that office.

Carried.

Dr. Tennant exhibited a pair of shoes worn by a person struck by lightning, and made a few remarks on the subject of lightning stroke. Drs. Hall and Ferris discussed the subject.

The society then adjourned. Present 49.

(Signed)

H. R. McGRAW,  
Secretary pro tem.

The Medical Society of the City and County of Denver held a regular meeting on the evening of Oct. 18, 1910, at the Academy of Medicine, Dr. C. B. Van Zant presiding.

The minutes of the last regular meeting were read and corrected as follows:

Dr. Beggs stated that he had introduced one amendment to the by-laws and one amendment to the constitution, the latter by request; that his motion had been that the Committee on Public Health and Legislation be instructed to bring in a strong set of resolutions opposing the habit of electing undertakers as coroner and favoring the election of physicians to that office.

Dr. Levy corrected the report of the Committee on Delinquent Members by stating that the report was in the hands of the Secretary of the County Society.

Dr. Simpson stated that the reason that his application had been withdrawn was because he had been reinstated.

Dr. Beggs stated that the motion in reference to the Neuman matter had been to lay it on the table until the next meeting. No correction was ordered.

Dr. McGraw stated that the minutes in this regard had appeared as he had understood it.

The corrected minutes were then accepted.

The Board of Censors reported favorably on the application of Dr. J. W. Amessee, the ballot was taken, and the candidate was elected.

The secretary then introduced an amendment to the by-laws as follows:

To amend Art. IX., Sec. 2, of the by-laws, by making the exhibition of patients the second number on the order of business.

The secretary then read a communication from Mrs. C. K. Fleming thanking the society for its expression of sympathy for their sorrow. Also a communication signed by M. E. Bostwick, who assumed all responsibility for an article appearing in the Post referring to a Caesarian section done at Mercy Hospital, and exonerating Dr. Monson from all blame in reference to its appearing in print. Dr. Monson spoke declaring his innocence.

Dr. Tennant spoke of the work done by the Committee on Public Health and Legislation, and moved that the society appropriate the sum of \$50 for the use of the committee. Dr. Beggs called attention to the article of the by-laws providing for such appropriations and the subject was referred to the trustees on motion.

The secretary asked to be instructed with reference to the report of the committee on Dr. Fleming's death, and Dr. Levy moved that the report be spread on the minutes of this meeting. Carried.

Dr. Beggs offered the amendments which he had previously presented to be read at this meeting. Overruled.

Under the head of presentation of patients, Dr. Lazell showed a patient believed by him to be a case of myxoedematous cretinism. Dr. Levy called attention to the possibility of confusing this disease with disease of the pituitary, and asked if this patient's genitalia were developed. The mother stated that the child

had never menstruated, although she is seventeen years old.

Dr. F. E. Waxham read the first paper on the scientific program entitled "Edema of the Glottis," with report of cases.

Dr. Levy spoke in commendation of the paper, of the need of such papers; stated that small foreign bodies are often the cause of edema, reported a case where a fly was said to have been swallowed. He stated that he had seen the use of adrenalin followed by good results; that it was his belief that when improvement does not follow within forty-eight hours that tracheotomy should be done. He laid special stress on the fact that tracheotomy is the operation of choice. He paid a tribute to Dr. Waxham as the father of intubation.

Dr. Dworzak spoke of a case where he had removed a piece of chicken bone from the larynx, exhibiting the fragment. He recommended that the nasal cavity be explored to free it from obstruction, and that heroin be used for the cough.

Dr. Waxham closed referring to the use of the x-ray in the diagnosis.

Dr. Ringolsky then read an excellent paper on non-diabetic glycosuria.

The society then adjourned. Present 50.

The meeting of the San Luis Valley Medical Society was held at Monte Vista, Colo., Tuesday evening, September 20, 1910, with Dr. N. H. Chapman of Monte Vista as acting chairman.

The minutes of the last meeting were read and approved. Dr. A. R. Pollock and Dr. J. McFadzean were then elected members of the censor board, to fill the vacancies left by Drs. Melvin and Clark.

The censor board then submitted the following names for membership: Drs. R. S. Leadingham, Monte Vista; F. W. Carpenter, Center; A. R. Nash, Del Norte; Blazer, Monte Vista; C. H. Morse, Alamosa; each name, respectively, being voted upon and elected to membership of the society.

It was moved and carried that the chair appoint a committee to formulate a fee bill schedule, also a rating book, and this committee to report upon same at next meeting of the society.

It was moved and carried that Dr. O. P. Shippey of Saguache act as delegate to the state convention at Colorado Springs.

Dr. G. W. Larimer of the D. & R. G. R. R. Hospital, Salida, then read an interesting paper on and reported a case of "Acute Post-Operative Dilation of the Stomach."

The secretary was then instructed to extend a vote of thanks in behalf of the society to Dr. Larimer for his instructive paper.

The Society adjourned at 11:30 p. m. to partake of a luncheon given by the physicians of Monte Vista.

The next meeting of the society will be held in January, 1911, at Del Norte, Colo.

Respectfully,  
B. L. DOANE,  
Secretary and Treasurer.

## COLORADO OPHTHALMOLOGICAL SOCIETY.

The October stated meeting was held at the office of Dr. E. F. Conant, who presided. Attendance eighteen members and two guests. Dr. Robert R. Hampton of Salt Lake City, and Dr. C. O. Elgler of Denver.

Dr. Edward Jackson presented a case of tabetic optic atrophy showing irides of uniform color, which he attributed to changes in the epithelium of the anterior layer of the iris, and to miosis.

Dr. D. H. Coover showed (1) a degenerated globe resulting from sympathetic ophthalmitis, following a stick injury of the fellow eye twenty-five years before, the sympathizing eye showing light perception still; (2) neuro-retinitis of obscure origin and affecting one eye principally, in a boy of sixteen years, apparently in general health, and (3) intra-ocular hemorrhage in a man of sixty-six, associated with unconsciousness for three weeks and later with failing mentality.

Dr. W. C. Bane reported that in a case of pemphigus which he had exhibited during the progress of the disease in the affected eye, and also after its arrest by the x-rays, the disease had recently attacked the other eye.

Dr. C. E. Walker presented an adult with irido-cyclitis and posterior synechia, following a gamma of the iris which had absorbed in three weeks under inunctions of mercury.

Dr. W. A. Sedwick showed a case of phthisis bulbi with hyphemia, in a man of sixty-one, following by four months an extensive lacerated wound of the sclera and injury to the face.

Dr. D. A. Strickler (1) presented a child whose eye had been injured by the passage of a splinter through the cornea and lens, causing temporary clouding of the lens, with partial clearing and resulting vision of 20/50, and (2) re-exhibited a boy who had received a large wound of the ciliary body nine months before, from a knife blade, and whose eye was still quiet, with normal tension, and vision equal to counting fingers with the injured eye.

Dr. Conant showed a young man with ectropion of both lower eyelids, resulting from a recent severe burn with hot solder. Operation for the ectropion would be done later.

Dr. Libby presented a man of twenty-one with recent obstruction of the central artery of the retina, in an eye that had been blind for over two years. No hope of benefit to the affected eye was held out, but examination of the urine, blood and general physical condition was advised, with such treatment as was indicated.

GEORGE F. LIBBY,  
Secretary.

Dr. W. O. Sheller, of Wiley, has located at Lamar.

Dr. R. V. Raiff, of Bristol, has changed his field of practice to Hartman, a nearby town.

Dr. Frank Finney, A. T. & S. F. Hospital Surgeon, La Junta, and his son Dr. Roy Finney, interne at C. F. & I. Hospital, Pueblo, will leave early in January for a tour of the world combined with postgraduate work in Vienna and other medical centers.

## Correspondence

### TO MEMBERS OF THE SOCIETY.

Sir—A circular letter was prepared by the Representative Government League and was presented to me for my endorsement by its secretary, Mr. W. F. R. Mills. I read the letter and found it in accord with my convictions with regard to the initiative and referendum. Mr. Mills said it was the intention to send the letter to all the physicians in the state and asked me if it received my endorsement. I told him it did. I presumed that I was only one of many who were endorsing it. I was much surprised and shocked this morning to receive this letter through the mails and to find my name signed to it as secretary of the State Society.

In signing this letter I did so in my individual capacity only. Had I suspected that it was the intention to use my endorsement as coming from me in my official capacity I should have withheld my signature and put a stop to the matter then and there.

During the conversation not a word was said of the Colorado State Medical Society or of me being its secretary, and therefore the form in which the circular letter was issued, the use of the name of the society, its letter head and of my name as secretary on the part of Mr. Mills, the Government League or anyone else, was fully unauthorized and unwarranted.

I have directed both the Denver morning papers to insert the following notice: "Dr. Melville Black desires to announce that a circular letter announcing his personal convictions on the initiative and referendum signed by him as secretary of the Colorado State Medical Society was not authorized by the said society and that it should have appeared as coming purely from an individual."

I regret that the name of the Colorado State Medical Society has been injected into a general political controversy in which it has no concern, and I wish to assure the members of the society that it has been done without my consent or connivance.

Yours truly,  
MELVILLE BLACK.

We are in receipt of a recent personal communication from Dr. H. G. Wetherill of Denver, who has been attending the Fifth International Congress of Obstetrics and Gynecology held in St. Petersburg, September 22nd to 28th. This letter contains so much of general interest to the members of the Society that we publish it in full. As chairman of the Gynecologic section and delegate of the American Medical Association he had every consideration shown him. He was made honorary chairman of the Congress for one day out of compliment to the United States.

Berlin, October 16, 1910.

I was shocked beyond expression to learn of the death of Dr. Fleming, though I knew he had not been well for some time. He will be sadly missed, for he was a universal favorite.

I have thought of you all this week and hoped that the meeting at Colorado Springs would go well, and I have no doubt that it did, for those fellows down there know how to do things, and are not afraid to work. I hope you got my wire which was sent so as to reach you while the meeting was in session.

The Fifth International Congress of Obstetrics and Gynecology, held in St. Petersburg from September 22nd to the 28th, was a great success, though the attendance was small on account of the cholera scare. Many German, English, French, Spanish and Italian obstetricians and gynecologists of note were in attendance, and there were even some from Africa and South America, but only two from the United States, Dr. E. P. Davis of Philadelphia and I. The program was a good one and the entertainment was most elaborate. The Empress' physician was the president of the congress, and, in consequence, we had many royal favors. We had lunch at the Palace as the guests of the Czar, a sail on the river in the royal yacht to the summer palace and a splendid dinner at the house of Professor Ott, the Empress' obstetrician.

Among other things Her Majesty has done for this man is to build a hospital for obstetric and gynecologic work, of which he is the absolute dictator, and which is in every detail the most complete and expensive place of its kind in the world. Her trust has been well placed, for he is a splendid operator and he has a genuine genius for organization. The cooperation and co-ordination of his assistants is the best I have ever seen, with the possible exception of the Mayos.

I saw him do some wonderful vaginal operations for large fibroid tumors of the uterus, and cysts of the ovaries. He uses an electric lighted retractor of his own devising and with it he can examine and remove the appendix, or expose the liver and the gall-bladder to view, through the vaginal incision. With the cystoscope a clear and direct view into the bladder may be had, and direct catheterizing of the ureters is quite easy.

Professor Ott is by far the best operator I have seen in Europe so far, for on the whole the operative work here is not as good as one may see at home.

The next congress will be held in Paris two years hence and the next after that in London, then some city in the United States will get it.

Berlin is the home of many medical celebrities, and one may spend his time to good advantage here if he desires to do so. Through the kindness of Prof. August Martin I have been able to see the work of Bier, Bumm,

Mackenrodt, Duhrsen, Frang and others, and it has been most interesting.

The celebration of the one hundredth anniversary of the Berlin University has been going on during this week, and it has brought many eminent men from all over the world. A gorgeously gowned little man got into the elevator at the hotel with my wife and me the other day. I did not recognize him in his red and blue silk robe and mortar-board academic garb till he said "Zwei!" to the elevator man, when I recognized the nasal American twang of Prof. W. W. Keen of Philadelphia. He told me he was representing the American Philosophical Society at the anniversary celebration. His daughter was with him.

Dr. Charles Bundsen of Denver is studying tuberculosis here. I met him in the hotel and heard him spoken of at the rooms of the Berlin American Medical Association.

We are headed south for Dresden, Nuremberg, Munich, Vienna and the Italian cities of Venice, Florence, Genoa, etc., and shall sail from some port early in December.

With regards to all friends and with apologies to Dr. J. N. Hall for an encroachment upon his prerogative in relating the incredible, I am  
Yours very truly, H. G. WETHERILL.

Editor Colorado Medicine.

Dear Doctor:—Some people think it a matter of good form for a departed guest to write to his sometime host, expressing appreciation of the entertainment provided. This is especially true if the entertainment be unusually lavish and generously bestowed. Having this in view I write on behalf of many of us, who were so kindly entertained by the fraternity at Colorado Springs during the recent meeting of the State Medical Society.

A first thought would cause us to dwell for a moment on the fitting surroundings to this meeting—the beautiful days and moonlight nights, the haze of autumn tint over mountain and valley and the clear ozone, so conducive to clear orientation and rhetorical effect (vide Dr. Elder, discussion J. R. Hopkins' paper). I pass with regret over many interesting features of the scientific program. The gang were all there, with possibly three exceptions—Bro. Stuver of Collins and B. B. Slick of Ridgway, who were unfortunately detained by confinement cases, and Bro. Wetherill, who sent a wireless greeting from off Sandy Hook.

During the afternoon program of the second day, while discussing Dr. Hopkins' paper, the air became so warm that the doors of the hall facing the foothills were left open, to secure a full measure of atmospheric effect.

The society was deeply engrossed absorbing wisdom, when startled by a piercing shriek which emanated from Dr. C. H. Call, who was sitting close to the door. The cause of the trouble was found to be a large, ferocious badger, which had strayed from its lair in the foothills. Fierce and starving, it had seized Dr. Call by the calf of the leg. Dr. J. N. Hall proved himself a worthy possessor of that medical virtue *aequanimitas*. Stepping up, he

advised Call to remain calm, and all would be well. He (Hall) thereupon rushed up stairs, returning quickly with a bottle of chloroform. A few minutes sufficed to anaesthetise the brute, tie it with a rope and place it in a barrel.

Dr. Call's injuries having been dressed, he was so incensed that he wanted to let loose his Boston bull pup Violet at the animal. It was deemed wiser, however, not further to disturb the meeting, but arrange for a matched fight that evening at the jungle party, between the dog and the badger.

Six o'clock arrived and with it the departure of some two hundred of the boys for the jungle, five miles up South Cheyenne canon, where we were led to expect a hot barbecue, a hot bulldog-and-badger fight, and other warm numbers. Did you ever spend an evening in South Cheyenne canon with 200 of the boys, a hot barbecue, 200 pipes, a bonfire, Chinese lanterns, and the merry twinkle of the moonlight, while the orchestra?

The barbecue dinner, a very worthy effort, was quickly dispatched. After the flowing bowl came the pipe of peace, some 200 of which were distributed by Dr. Webb. Excitement was rife as the barrel containing the huge badger was rolled into view before the fire. Notwithstanding a heavy financial backing by Drs. Freeman, Black and Magruder, the Rocky Mountain badger proved no match for Dr. Call's Boston pup, so the doctor was amply avenged for his injury of the afternoon.

Following the fight Drs. Grant and Stoddard in full regalia danced a Highland fling, to the stirring notes of the bagpipes. They were loudly applauded, Dr. Grant remarking that on account of the variety of movement in the fling he was never as stiff as after other dances.

The pillow fight in which Webb carried off both the mug and the bacon, drew rounds of applause.

Songs, stories and dances around the bonfire carried the evening along until 9 o'clock, when the final event was pulled off. It seems that since the delivery of the president's address the previous day on "Medical Centers" that some controversy had arisen among the physicians present as to the real merit of the work done in Denver, compared with that done elsewhere in the state. One paper on the program rather supported the contention that the Denver men were somewhat weak in gray matter, lacking that essential feature, "wisdom."

It was therefore decided to have a boxing bout between a Denver hospital interne and one from Colorado Springs, to decide the merits of the case and settle the question. Great excitement prevailed as the contestants and their seconds stepped into the ring. The Denver man was seen to be the heavier but lacking the agility of his opponent. The bout seemed about to go to a finish with the odds favoring the Springs, when the referee called "time!" declaring the contest a draw.

Well pleased with the evening in the jungle and with loud cheers for Dr. Magruder and his confreres, the boys returned to their quarters at the Antlers.  
H. RURAL, M. D.

## Book Reviews

**Biographic Clinics, Volume VI. Essays Concerning the Influence of Visual Function, Pathologic and Physiologic, Upon the Health of Patients.**—By George M. Gould, M.D. Published by P. Blakiston's Sons & Co., Philadelphia.

The purpose of the author is to show the neglect on the part of the oculist and the medical profession generally in correcting eye-strain by the use of glasses. Further, that migraine is due to eye-strain and that for some unaccountable reason the medical profession will not accept the relationship of cause and effect. The book affords the author an opportunity to vent his spleen upon the medical profession for not having listened to "his teachings." The author has been harping on this string for so long that the noise is tiresome. His persecuted air and manner do not appeal to our sympathy. We feel that he usurps a position to which he is not entitled, namely, that of the pointer out of the relationship of eye-strain to migraine, nervous disorders and other diseases. So far as we know, this relationship is not denied, but that its importance does not justify a man in going daffy about it, seems also not to admit of argument. We fail to see wherein "Biographic Clinics" are benefited by the addition of this contribution on the "Influence of Visual Function Upon Health."

M. B.

**The Practical Medical Series, Volume III. The Eye, Ear, Nose and Throat.**—Edited by Casey A. Wood, C.M., M.D., D.C.L., Chicago; Albert F. Andrews, M.D., Chicago, and G. P. Head, Chicago.

This very worthy publication, at the moderate price of \$1.50 per volume, gives all the progress made during the period of one year. It affords the specialist or the general practitioner an opportunity to quickly review the advanced original work done during that period, as well as to have within easy reach for reference such portions of it as may be desired quickly for the future. While we may have read in the current literature the original of most of the work reviewed, a rereading of it only serves to refresh one's memory and to fix in the mind of the reader the best original work of the year. We are compelled to read from so many sources in our general reading that when it is desired to lay hand again upon some article to which we desire to refer, it is unlikely that the journal containing it can be remembered, and in order to find it considerable annoyance and delay is occasioned by having to go through a large number of different journals. This little book will in all probability contain a comprehensive abstract of the article desired, and if not sufficient in itself, it will give the location of the original article.

M. B.

**The Diseases of Children.** Edited by A. Jacobi, M. D. Translated from the German by Julius L. Salinger, M. D. Pp. 789. D. Appleton & Co., New York.

This work represents the latest thought and investigation of many of the leading German pediatricists, and is a translation of articles which appeared in the well known "Deutsche Klinik am Eingange des zwanzigsten Jahrhunderts." Such names as those of Escherich, Finkelnstein, Heubner, Hochsinger, Henoch and Baginsky, among many others of almost equal note, are sufficient to characterize the work for anyone at all familiar with German medical literature. It is unquestionably the most authoritative symposium on pediatrics from the German point of view which has ever been published.

In the perusal of such a book, one must be prepared for the peculiarities of the German method of studying and teaching medicine. The Germans excel in the domain of pathology and of inductive methods applied to the elucidation and diagnosis of disease conditions. While this diminishes the value of the work for some purposes, it greatly enhances it for others. For example, in the otherwise exceedingly valuable and suggestive article of Escherich on the Acute Digestive Disturbances, we find an extremely confusing mode of classification, and scarcely more than a page devoted to the very important subject of therapy. On the other hand, nothing could be more admirable and illuminating than Hochsinger's handling of the pathogenesis of infantile eclampsia; we know of nothing in this line more valuable and complete.

It seems querulous, perhaps, to cast any reflection on the performance of what is notoriously so arduous and thankless a task as translation; one cannot but be grateful to those who have undertaken it. And yet so much of one's enjoyment of a book depends upon felicity and clearness of expression that we cannot forbear urging a revision of the translation of this work before another edition is issued. While in the main the translation is admirable, yet defects are frequent enough to be disagreeable. A few instances will illustrate: On page 247, we read "functional disturbances of the nervous system cannot always be defined from organic," differentiated being meant. On page 124, "This result (successful breast feeding) can be attained only in children born of middle-aged, healthy parents," "im mittleren Alter" being translated middle-aged, whereas it evidently means neither very young nor very old. On page 125, it reads, "These children (breast fed) are exceedingly fat, so that an equal accumulation of fat later in life must be regarded as pathological." We read over this sentence several times without catching its meaning; but on consulting the original we found that the author meant to say that "these children are often so fat that a like accumulation in later life would be considered pathological." The occurrence of such errors is certainly distressing, chiefly because it arouses doubt as to the accuracy of other passages.

But these are minor defects, and easily cor-

rected. We should think it unnecessary to mention them were it not for the importance of the work as a whole, and hence the greater desirability that it be correctly interpreted. It gives an insight into the German idea of infantile dietetics, so different from ours in many particulars. Although it is not a book for students, its value to the general practitioner is enormous, and it should find its way into every library.  
H. B. W.

**Modern Medicine; Its Theory and Practice, in Original Contributions by American and Foreign Authors.** Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England; Honorary Professor of Medicine in the Johns Hopkins University, Baltimore, Formerly Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and of the Institute of Medicine in McGill University, Montreal Canada; assisted by Thomas McCrae, M.D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore, Fellow of the Royal College of Physicians, London. Vol. VII. Diseases of the Nervous System. Illustrated. Philadelphia and New York. Lea & Febiger, 1910.

As in the other volumes of this system of medicine, so in this the various divisions have been assigned to men best qualified, in the author's opinion, to write them. Thus Dr. Lewellys F. Barker writes the introduction, Dr. William G. Spiller the section on diseases of the motor tracts, Dr. Colin K. Russel that on combined system diseases of the spinal cord, Dr. Edwin Bramwell those on sclerosis of the brain and on diseases of the meninges, Dr. E. Farquhar Buzzard that on diffuse and focal diseases of the spinal cord, Dr. Joseph Collins those on topical diseases of the spinal cord and on aphasia, Dr. Henry M. Thomas that on diseases of the cerebral blood vessels, Dr. Harvey Cushing those on tumors of the brain and meninges, and on hydrocephalus, etc., etc.

Any book produced by a number of authors, each writing separately, will manifest the various abilities of those who write it, and this is no exception to the rule. Some of it is very well done, indeed, and the entire volume forms an excellent reference book.  
L. W. E.

**The Practical Medicine Series.** Comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Vol. V., Obstetrics, edited by Joseph B. De All, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School, with the collaboration of Herbert M. Stowe, M.D. Vol. VI., General Medicine, edited by Frank Billings, M.S., M.D., head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Series 1910, Chi-

cago. The Year Book Publishers, 40 Dearborn Street.

**A Text-Book of Diseases of the Ear**—By MacLeod Yearsley, F.R.C.S., London, Eng., Senior Surgeon to the Royal Ear Hospital; Medical Inspector to London County Council Deaf Schools; Lecturer on Anatomy and Physiology to the Training College for Teachers of the Deaf, Ealing, etc. Published by the Chicago Medical Book Co. Second edition. Price \$4.

This well known work has been thoroughly revised and brought up to date. Much has been added, especially in the chapters dealing with suppurative and non-suppurative diseases, and in that on the influence of general diseases on the ear. The descriptions of operations have been rendered more complete, and many measures not mentioned or merely touched upon in the first edition have been fully dealt with. Most of the illustrations have been made from special photographs, and nearly all are new.

M. B.

**Prescription Writing and Formulary**—By John M. Swan, M.D., Associate Professor of Clinical Medicine in the Medico-Clinurgical College of Philadelphia, etc., containing 1,043 prescriptions. Philadelphia and London. W. B. Saunders Company, 1910.

The author has turned out a very practical and convenient form of pocket formulary that contains multum in parvo.

L. W. E.

**A Text-Book of Materia Medica, Pharmacology and Therapeutics**—By George F. Butler, A.M., Ph.G., M.D., Professor and Head of the Department of Therapeutics, and Professor of Preventive and Clinical Medicine, Chicago College of Medicine and Surgery; Medical Department Valparaiso University; Physician to Francis E. Willard Hospital, etc. Sixth edition. Thoroughly revised and enlarged, and adapted to the eighth revision (1905) of the U. S. Pharmacopocia. W. B. Saunders Company. Philadelphia and London. 1908.

There are many books like this, and their continued appearance shows that a need for them must exist.

L. W. E.

**Dyspepsia: Its Varieties and Treatment**—By W. Soltaw Fenwick, M. D. (London), Doctor of Medicine of the University of Strassburg; Late Physician to the Evellina Hospital for Sick Children, etc. Illustrated. Philadelphia and London. W. B. Saunders Company, 1910.

It is very strange to see how two eminent authorities on a subject can arrive at conclusions diametrically opposite. After reading what Fenwick, basing his conclusions on a ripe clinical experience and upon a study evidently more than usually deep, teaches on cyperchloridia, haematemesis, melena, etc., one is inclined to scout the positive assertion of



Moyuihan and others that every case of melena is due to duodenal ulcer, and that acid dyspepsia has no existence except as a symptom of this lesion. Fenwick says: "Intestinal indigestion almost defies exact clinical analysis." His book of 454 pages shows care and thought in its preparation.

L. W. E.

**International Clinics—A Quarterly of Illustrated Clinical Lectures, and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest—By Leading Members of the Medical Profession Throughout the World.** Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of Drs. William Osler, John H. Musser, A. McPhedran, Frank Billings, Charles H. Mayo, Thomas H. Rotch, John G. Clark, James J. Walsh, J. W. Ballantyne, John Harold and Richard Kretz; with regular correspondents in Montreal, London, Paris, etc. Philadelphia and London. J. B. Lippincott Company, 1910.

Volume I, Twentieth Series, contains the following contributions: The Serum Diagnosis of Syphilis, by Homer F. Swift, M.D.; Further Studies on the Serum Diagnosis of Syphilis, with Especial References to the Anti-Human Haemolytic System, by Hideyo Noguchi, M.D.; The Newer Diagnostic Methods of Syphilis of the Nervous System, by B. Sachs, M.D.; Symptomatology of Pellagra, by J. J. Watson, M.D.; The Treatment of Pellagra, by James M. King, M.D.; The Tuberculus and Their Diagnostic and Therapeutic Use, by John Benjamin Nichols, M.D.; Some Recent Additions to Our Knowledge of Purin Metabolism and Their Bearing on the Problems of Gout, by H. Gideon Wells, Ph.D., M.D.; Chronic Mucous Colitis, by Dudley Fulton, M.D.; The Diagnostic Value and Therapeutic Effects of the Bismuth Paste in Chronic Suppuration, by Emil G. Beck, M.D.; Tuberculosis of the Thyroid Gland, with Report of a Case, by A. E. Halstead, M.D.; Progress of Abdominal Surgery and Gynecology, by A. Laphorn Smith, B.A., M.D., M.R.C.S.; The Hygiene of Menstruation by Ernest Boyen Young, M.D.; Eye Strain Among School Children, by Aaron Bran, M.D., etc., etc.

Volume III, Twentieth Series, contains the following: Uncinariasis, by M. Howard Fussell, M.D.; Hydrophobia, by Milton K. Meyers, M.D.; Dilatation of the Subclavian Artery, by Frank G. Wilson, M.D.; The Philosophy of Lancing Teeth, by Joseph Head, M.D., D.D.S.; Pyorrhea Alveolaris, by Arthur H. Merritt, D.D.S.; The Present Status of Bacterin Therapy, by B. A. Thomas, A.M., M.D.; Reports on Auto-serotherapy, by C. K. Austin, M.D.; etc., etc.

**Modern Materia Medica and Therapeutics—By** A. A. Stevens, A.M., M.S., Professor of Ther-

apeutics and Clinical Medicine, Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes's Hospital; Assistant Physician to the Philadelphia General Hospital; Fellow of the College of Physicians of Philadelphia, etc. Fifth edition. Thoroughly revised, in conformity with the eighth revision (1905) of the United States Pharmacopocia. Philadelphia and London. W. B. Saunders Company, 1909.

This edition of Stevens' excellent book has been thoroughly revised, and contains many important modifications and considerable additions. The section dealing with the action and uses of drugs has been in large part rewritten. Articles dealing with a number of new remedies have been incorporated with the old material, and new formulae have been added where the author thought they would make more clear the therapeutic application of the drugs he was describing. Books like these, concise and yet complete, are of great value to the profession, and their abundant use would go far to free it from the thrall of patent medicine manufacturers.

L. W. E.

**Pocket Therapeutics and Dose Book, with Classification and Explanation of the Actions of Medicines, Doses, Index, etc.—By** Moses Stewart, Jr., B.A., M.D. Fourth edition. Rewritten. Philadelphia and London. W. B. Saunders Company, 1910.

A handy pocket manual, containing much condensed information of a practical nature.

L. W. E.

**Clinical Diagnosis and Treatment of Disorders of the Bladder; with Technique of Cystoscopy—By** Follen Cabot, M.D., Professor of Genito-Urinary Diseases, Post Graduate Medical School; Attending Genito-Urinary Surgeon, City and Post Graduate Hospitals, New York. Illustrated. New York. E. B. Treat & Co., 1909.

The chief object of this book is to teach general practitioners the principal methods of diagnosing and treating disorders of the urinary bladder. While the cystoscope and its uses have been carefully considered, particular effort has been made to give each method of diagnosis its just value. The various disorders of the bladder are to-day better understood and more satisfactorily treated than they were a few years ago, and a book like this will help the general practitioner to keep abreast of the times.

L. W. E.

**Transactions of the College of Physicians of Philadelphia—Third series. Volume XXXI.** Philadelphia. Printed for the college, 1909.

The thirty-first volume contains the papers read before the college from January, 1909, to December, 1909, inclusive, 25 in number.

L. W. E.

**The Ophthalmic Year Book, Volume VI, Containing a Digest of the Literature of Ophthalmology, with Index of Publications for the Year 1908**—By Edward Jackson, A.M., M.D., Professor of Ophthalmology in the University of Colorado; George E. M. Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania; Theodore B. Schneideman, A.M., M.D., Professor of Ophthalmology in the Philadelphia Polyclinic. Illustrated. The Herrick Book and Stationery Company, Denver, Colo., 1909.

A book such as this, combining a great amount of labor with a high order of knowledge, is particularly valuable to the specialist with whose particular line of work it deals. It covers generally and as briefly as possible the entire field of ophthalmology for the year 1908, giving a review of all the writings of note in the various subjects embraced by it. It is well illustrated and excellently written, and contains a full index of the articles published, and the journals in which they appeared.

**The Herter Lectures (New York, 1908) on the Fluids of the Body**—By Ernest H. Starling, M.D., F.R.C.P., F.R.S.; formerly Professor of Physiology in University College, London. Chicago Medical Book Company.

The author makes no attempt to give an exhaustive account of any of the subjects treated in his lectures, but aims to give a presentation from the standpoint of one worker. In this way his readers are stimulated to search out for themselves, in the wards or in the laboratory, the answers to some of the riddles with which he confronts them.

L. W. E.

**A Manual of Normal Histology and Organotherapy**—By Charles Hill, Ph.D., M.D.; formerly Assistant Professor of Histology and Embryology at the Northwestern University Medical School, Chicago; formerly Professor of Zoology, University of Washington. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company, 1909.

The first chapters of this book have been rewritten and enlarged, giving the reader a clearer and more accurate conception of the cell and of the elementary tissues. The alterations, though not extensive, will doubtless add to the usefulness of the book.

L. W. E.

The National Association for the Study and Prevention of Tuberculosis would like to get in touch with all agencies engaged in the fight against tuberculosis, in order that they may be listed in the new directory.

This new directory will be issued soon and will list over 400 sanatoria and hospitals with a bed capacity of nearly 25,000; more than 300 special tuberculosis dispensaries and fully 450 anti-tuberculosis associations and committees. Since the first directory was issued in 1904, the increase in the number of agencies fighting consumption aggregates nearly 500 per cent.

## *Stolen Thunder*

### THE DOCTOR AND THE LAWYER.

Now comes that much overrated man, ex-District Attorney Jerome of New York, and tells some startling things about what should be done to the physicians who are a disgrace to the profession. They should be "disbarred," he says, by a certain tribunal akin to the Appellate Division of the Supreme Court. Most states already possess such tribunals in the State Board of Medical Registration and Examination, but they are not clothed with sufficient power by the law-making branch of the Government. "Phenomenal Kraus," who was expedited out of Missouri, is plying his nefarious business in Ohio simply because the law are not sufficiently comprehensive to deal with him. Other State boards have had like experiences. It is the "Advokaten Kniffe" that prevents the enactment of proper laws to protect legitimate physicians and an unsuspecting public. That beings like "Phenomenal Kraus" are paying for protection is more than suspected. Politicians prate about the sanctity of the men composing their guild, mostly lawyers, and then pharisaically point at the great medical profession because of the presence of some quacks, which the legal fraternity has made possible. It is to laugh.—Lancet Clinic.

### THE LINE AND THE STAFF IN THE GERMAN NAVY.

Until within recent years the naval service has not been popular among the German aristocracy, who preferred service in the army and carried into the army all the prejudices and practices which were characteristic of the German aristocrat. Latterly, however, the navy is becoming more popular, and as a consequence the social life of the service at sea has been materially affected by the influx of officers of noble birth. The latest manifestation of this influence takes the form of a note issued by Admiral von Prittwitz und Gaffron, in command on the Baltic station, touching the social status of staff officers. He reminds engineers, surgeons, paymasters, and other non-executive officers, so we learn from the Army and Navy Journal, that they cannot expect executive officers and their wives to mingle with them as social equals. They are advised to content themselves with "other than orchestra stalls" at the theatre. He admits that at sea a certain amount of intercourse on terms of equality is unavoidable, but cautions the staff officers that they must conduct themselves with due meekness and humility when brought into contact with line officers on shore. One result of this exaltation of the line at the expense of the staff has been a wholesale resignation of staff officers, including surgeons, of whom there threatens to be a decided lack within a brief time.—N. Y. Medical Journal.

The following from the Boston Medical and Surgical Journal seems good enough for a place in literature:

#### CLEAN SWEET MILK AND "VOTES FOR WOMEN."

Boston, Oct. 1, 1910.

Mr. Editor: Some days ago I received, as doubtless did many other Massachusetts doctors, a number of highly illuminated cards advocating "clean, sweet milk" and "votes for women." I replied briefly, in the self-addressed envelope that accompanied the literature, that I did greatly favor clean, sweet milk, but not votes for women. I have just received the enclosed reply, which for clear, cogent reasoning and delightful English would be hard to equal:

"Dr.

"Dear Sir: For your semi-indorsement of my efforts in behalf of hygiene milk I am grateful. Please do not do it again; I will forgive you this time.

"Sir, I am really shocked at your inconsistent inference that it would be possible for a woman, backed with the authority of the United States Federal Government, to supervise the production and protection of milk, to contaminate it to any higher degree of efficiency to kill than is done to-day by a man. Its very, very high degree of efficiency to kill is attested by the Boston Health Board's report that fifty-one babies in the city of Boston died during the month of July, 1910, in excess of the number in July, 1909.

"Sir, no acknowledgement or reply is required to this note until the scales have been removed from your callous conscience, by the torture and the filling of a premature grave of a dear one to you.

"In consequence of a diet upon a concentrated stewed solution of dirt, tuberculous and bacterial germs.

"Doctor, you may be skilful and in the full possession of the knowledge of medical science.

"Kindly accept the following from a layman, that combined brand of the dairy and milkman's indifference known as the undertaker's delight, that has been supervised by a man often, from the viewpoint of the quality and courtesy of the dairyman's whiskey and cigars is master piece of production warranted to kill, when taken as a food, and is far, far from the scope of known medical science to combat.

"Doctor, pull yourself together, this world moves. Respectfully.—Champion of Clean, Sweet Milk, Its production and protection supervised by a woman, backed by the authority of my Uncle Samuel of Washington, District of Columbia, United States of America.

— "Yours truly,

"X."

**Lactic Acid Bacilli in Gonorrhea.**—Watson (British Medical Journal 1910, No. IV.) advocates the use of sour milk injection in gonorrhea in woman. He has obtained excellent results in a number of cases.

#### TO FIGHT VACCINATION RULE IN WASHINGTON.

Washington, Sept. 18.—To establish on Federal territory the question of the constitutionality of the compulsory vaccination law, the Anti-Vaccination Society announced to-day that it will take a test case of the eight-year-old daughter of Charles Castle of this city. The little girl was refused admittance to the public schools last year, and if she is turned away again this week, as is expected, mandamus proceedings will be started at once.

"We are going to have this law declared unconstitutional," declared Harry B. Bradford, president of the society, to-day. "If we fail in that we will take the matter before Congress and try to have the law repealed. Compulsory vaccination is an outrage and a violation of personal liberty. It is one of the most gigantic pieces of quackery ever exploited among civilized people."—Exchange.

"Medicine, sometimes impertinently, often ignorantly, often carelessly, called 'allopathy,' appropriates everything from every source that can be of the slightest use to anybody who is ailing in any way, or like to be ailing from any cause. It learned from a monk how to use antimony, from a Jesuit how to cure agues, from a friar how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the Eustachian tube, from a dairy maid how to prevent smallpox, and from an old market-woman how to catch the itch insect. It borrowed acupuncture from the Japanese, and was taught the use of lobelia by the American savage. It stands ready to-day to accept anything from any theorist, from any empiric who can make out a good case for his discovery or his remedy."—Dr. Holmes.

The following story is known to French students of medicine as the production of Dr. J. Claretie: Magendie was once dissecting a live frog in order to demonstrate the nervous system. He paused in his work for a moment and began: "I am sorry, gentlemen—" "Ah!" exclaimed the sympathetic audience, "he is about to say how grieved he is that the frog must suffer." "I am sorry, gentlemen," continues Magendie, "that this frog is not so big as a cow; you could see better." Great sensation on the following day among the antivivisectionists when the story leaks out; resolutions are passed that the murderous Magendie should be torn to pieces and his body given to the frogs.—New York Medical Journal.

In the apocryphal book of Ecclesiasticus, XXXVIII, 1, we read: "Honor a physician . . . for the uses which ye may have of him." In the Vulgate this passage is: "Honora medicum propter necessitatem," which has lent itself to the facetious rendering: "Give the doctor his honorarium, for he needs the money."—New York Medical Journal.

# COLORADO MEDICINE

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## Editorial Comment

### THE REPORT TO THE CARNEGIE FOUNDATION ON MEDICAL EDU- CATION IN THE UNITED STATES AND CANADA.

It is most fortunate that a person of the generous inclinations of Mr. Carnegie should be drawn into an investigation, through his agents, of the medical education furnished by the various colleges in the United States and Canada. The circumstances which directed the attention of the Carnegie foundation toward an examination of medical schools are both interesting and unusual.

To the trustees of the Foundation there was committed an endowment to be ex-

pended for the benefit of teachers in colleges in the United States, Canada and Newfoundland. In an effort to execute this trust intelligently, it developed early, that among the various institutions bearing the name college or university there was little uniformity in such essential matters as standards of admission, courses or facilities for instruction. Under the circumstances the trustees directed an investigation of the preliminary requirements of the various institutions of higher learning and of the quantity and character of work done by them. They also undertook to make certain recommendations, compliance with which, would give to the name "College," in America, an unequivocal signification. Thus it happened that in spite of the antagonism so often exhibited between

science and sentiment, a document which promises to be one of the greatest factors in the evolution of the American medical school has been born of the generous emotions of a philanthropist.

As the preparation that would be helpful to one engaging in the study of medicine is almost infinite in extent, it must finally be determined that the amount of it to be required must depend upon the amount of intellectual work that the average person can do during the plastic period of his youth and within a reasonable proportion of his useful years. Medicine being an art resting by a broad foundation upon many sciences, vast in the extent of the knowledge it embraces, with innumerable important problems constantly pressing for solution, having wide and intricate relations with the social state, it is clear that the standard of admission to medical schools should be as high as the time relations noted will permit.

If, after forming our ideals of the education that should precede medical instruction, we compare them with the conditions as they are revealed in the Carnegie report, we find the greatest irregularity in rule and in practice. The requirements of the many American schools show great dissimilarity in scope as well as in the fidelity with which they are maintained.

The evil of making inadequate educational demands upon those beginning medical study or the disgraceful failure to uphold sufficient requirements are, however, difficulties easily removed. Publicity, such as that furnished in the Carnegie report, is a sword that will not fail to sever the bond between low practice and lofty pretensions.

Many that teach in our medical schools hope, as a reward for the instruction they offer, to be able to add a cubit to their professional stature. These will find the prospect of growth poor when it is revealed that the schools in which they teach accept ill prepared students or resort to dishonorable

means to fill the benches of their lecture rooms.

After the student has been admitted to the medical schools there are still many problems to be solved regarding the kind and cost of the instruction he shall receive. The satisfactory equipment of laboratories, the employment of teachers of the fundamental branches, who shall devote their full time to the work and be paid accordingly, will entail much expense. There will, however, be enough of our medical schools that will be able to meet all the exacting demands that may be made upon them except one and that is, the complete control of a hospital for clinical instruction. One could not hazard the hope that even as many schools as the country demands would be able to build and maintain hospitals of free beds for their own teaching purposes. Our public hospitals are purely philanthropic, almost never educational institutions. Until we can teach the people or their representatives that the interests of the invalid and medical student are not antagonistic but mutually helpful, ideal clinical advantages can not be acquired except in a few places unusually favored by fortune.

The consideration that seems a guiding principle of the reporter to the Carnegie foundation is that a competent education costs more than can be collected in students' fees and consequently, no institution can continue to furnish it unless supplied with funds from other than tuitionary sources. Since the facts upon which this inference rests were collected by Mr. Carnegie's own agent and the inference itself of his own drawing, it is to be hoped that Mr. Carnegie has found in the report to his Foundation a satisfactory way of avoiding his dread of dying a rich man. Having discovered the uneven and inadequate condition of American medical education, it will be hard indeed if he deserts the field leaving nothing but a little cold advice. May we not expect that he will consent to

further, with his ample purse, in suitable places, the reforms which he has found to be so essential.

### *A KERNEL OF TRUTH.*

The physician of broad training is fitted to pass judgment upon things medical far more intelligently than the layman. He is bound by neither restrictions nor narrow dwarfing dogmas, but is permitted to use any agency in the fight against disease which to his mind is justifiable. Every sect of the art of healing from the foundation of homeopathy down to the present time has been builded upon very narrow lines, and yet each has contained its modicum of truth. The weakness of each lies in the fallacy of applying a set rule to every case. No matter how absurd the creed if the founder of it is sufficiently carried away with the theme a large number of followers can be found who will rally to his support, fight for him and die in the belief that they have been defending a principle, which if generally accepted would have wrought universal good to mankind.

As medical men seeking for knowledge we do not ignore the good that is pointed out to us by the various cranks. The good is in most instances so obscured by absurd claims, erroneous reasoning and fallacious observations, that it is at first hard to find. It seems incredible that, in many instances, men who have occupied high positions in the esteem of the public, could be carried away by such unscientific and apparently foolish claims, and yet such is the case. It is fortunate that it is so, otherwise the cause would find an early grave and the little good contained in the principle advocated by the new cult would not come to light. After the light of reason has extracted the vital spark from the folds of mysticism which has enveloped it the cult gradually loses caste in the public estimation and becomes an agency of the past. It

lived long enough, however, to add one more star to the firmament of medical knowledge. No matter how obscure and ignorant and unbalanced the founder of a new idea may be, yet if he really has given us something to think about, we should not be too proud to investigate it and to accept it and use it if it is really of value. The medical profession is the censor to which the sane level headed public look for guidance in such matters. We must not betray the trust by condemnation without due investigation and we should be slow in arriving at hasty conclusions. There will be plenty of victims ready to sacrifice themselves at the shrine of the new "cure all," and for a time all we need to do is to utilize this clinical evidence. It should be weighed by us from an unprejudiced standpoint and such deductions drawn as time and experience warrant. Our views should then be given fearlessly.

The new cults should not be looked upon by the medical profession as rivals nor treated as such. If this attitude is taken we soon would be regarded by the public as narrow, biased critics. The public is not a fool. Far from it, and to command its respect we should take the broadest view of all things medical, and give it the benefit of using intelligently the knowledge we have acquired.

Nothing useless is, or low;  
Each thing in its place is best;  
And what seems but idle show  
Strengthens and supports the rest."

A western physician received the following from a brother physician:

"Dear Doc:—I have a pashunt whose physical sines showes that the windpipe has ulcerated off and his lugs have dropped into his stumck I have given hym everry think without effect his father is welthy honorable and infloenshial as he is a member of assembly and god nose I don't want to loss hym what shall I do ans by return male. Yours frat,

"DOC. 'FISHBIEN."—Ex.

## Original Articles

### A FATAL CASE OF LUPUS ERYTHEMATOSUS.\*

C. B. VAN ZANT, M. D.,  
DENVER, COLORADO.

The patient, Mrs. F——, was a married woman, 55 years of age, of a nervous temperament and of very active mentality. She was the mother of two adult children, and had always enjoyed health. Her skin had always been super-sensitive, so that she could not wear woolen underwear; and on a number of occasions she had suffered from severe and sudden urticarial outbreaks, from contact with poison ivy or from eating strawberries, buckwheat, etc.

In February, 1908, the first attack of what proved an annual visitation appeared, with a slight swelling and redness of the eyelids of one side, which traveled over the bridge of the nose to the other eye, then up on the forehead to the hair line and over the cheeks and face, without involving the ears or scalp. It progressed by a clearly defined and raised margin, and was attended by very slight fever without delirium. No eruption occurred elsewhere on the body. After slight desquamation the face was normal and convalescence complete at the end of two weeks. The condition looked like a mild attack of ordinary facial erysipelas, and was so considered by the writer.

About a year later, January 14th, 1909, without any premonitions of illness, Mrs. F—— was again attacked with redness and rapid swelling of the lids of one side, which soon closed them and then spread over the bridge of the nose with a sharply marked line of advance to the other lids; then over the forehead and scalp to the hair line at the neck and over the face, cheeks and ears.

\*Read at the annual meeting of the Colorado State Medical Society, Colorado Springs, Oct. 11-13, 1910.

the last becoming greatly enlarged. The attack was attended by a temperature of  $99\frac{1}{2}$  for a few days, and was followed by defervescence. In about a week the local conditions had subsided, with a drying up of a few vesicles which had formed on the face. A period of a few days now elapsed in apparent convalescence, when the above picture recurred, presenting the same features and course. Then, for a period of nearly three months, similar attacks, probably ten in number, came and went, with brief intervals of freedom from local conditions. One of these attacks was preceded by a severe chill and was attended by a temperature of 105 for a day, after which quick fall of temperature occurred. For the most part however the attacks were afebrile, and were attended by very moderate systemic disturbance. In one of the later of these recurrent attacks, on April 14th, there developed a mild delirium which rapidly merged into a deep comatose condition much like opium narcosis. This pronounced typhoid state lasted for four weeks and was attended with low, muttering, or again, wild delirium, involuntary urination and defaecation, and inability to swallow, requiring rectal alimentation. During this typhoid state the urine was constantly normal, the bowels were obstinately constipated, and there was a persistent dry cough. In the second week of this coma, small spots, about the size of a pea, developed on each hand, especially on the dorsal surface. These were elevated, indurated, itching, and not readily obliterated by pressure, though not haemorrhagic. This eruption did not appear elsewhere on the body, and, after passing through a dry scaly stage, disappeared in about four weeks, leaving no cicatrices. After four weeks of the most profound coma, lucid moments appeared, followed by a slow clearing of the mind. The duration of the whole sickness, from its beginning in January till the patient was on her feet, was four months.

Several colleagues who saw the case with the writer felt with him, that it was one of persistent facial erysipelas, of an atypical, afebrile form, attended with a profound toxæmia, which led to the coma and to the eruption on the hands. In regard to the treatment, local applications and general medication of a wide range availed nothing in preventing or arresting the disease. Included in the long list were streptolytic serum, streptococcus vaccine, hypodermoclysis of salt solution, etc. A careful supporting, eliminative and palliative treatment seemed to accomplish all that was possible in the case. During one of the recurrences, serum was obtained from a blister back of the ear in affected territory, which, on examination by Dr. Wm. C. Mitchell, was found to contain a few streptococci. A culture was made from this and a vaccine prepared, which was faithfully given for some eight months. As will be seen, it failed to prevent the annual recurrence of the malady.

The patient continued in apparently perfect health during the remainder of 1909 and till January 14th, 1910, just a year to a day from its former onset. In this third annual seizure, marked variations from its former course characterized the case and permitted the exact diagnosis of the underlying condition, which had been quite obscure during the attacks of the previous two years.

Starting with a slight swelling of the right eyelid, then of the left, it spread over the face, scalp, front and back of the chest, the fingers and arms, and finally over the whole body, though faintly on the lower extremities. The special features of this eruption are carefully described at the close of this paper by Dr. A. J. Markley, who, as a dermatologist, was called in to see the case in consultation. To him the writer is indebted for an exact diagnosis, which covers all the lights and shadows of the case. During this third annual attack the

temperature ranged between 99 and 100, though at times it was normal or even subnormal. At the end of a week, delirium developed and rapidly assumed a violent and noisy type, requiring restraint of the patient. During this period the pulse ranged from 80 to 100; the respirations were slow, irregular and often of the Cheyne-Stokes type; hiccough was present; the urine was normal; the bowels obstinately constipated; defæcation and micturition, involuntary. A dry irritating cough was constantly present, due to a subacute bronchitis. After four weeks of this violent delirium, a milder, muttering form followed, lasting about four weeks more, with a final clearing of the mind nine weeks from the onset of the attack. It looked as though our long battle had ended in victory, when without warning, eight days later, March 26th, there was a recurrence of the disease which terminated fatally on April 17th, three weeks later. This terminal attack was characterized by delirium and then deep coma; a subnormal temperature or one of 99 to 101 on certain days; distinct pain and soreness in several of the joints; enlargement of the post-cervical glands; a heavy, itching eruption covering the whole body down to the knees; pus, albumen and fine granular casts in the urine for several days preceding death. The temperature reached 108 just before death.

The points of interest in this case are the rarity of the disease; the annual attacks in January or February; the increasing severity of the attacks each year, both as to constitutional and cutaneous manifestations; the perfect health between attacks; the joint affection; the terminal pyelonephritis (a feature emphasized by Osler in his admirable articles on the "Erythema Group of Skin Diseases").

Lupus erythematosus of a disseminated type is more common in women than in men, and occurs mainly in adults. Kaposi says of it: "In a series of cases we have



seen erysipelatoid swelling of the face attended by a typhoid condition, a temperature exceeding 104, coma, and dry, leathery tongue. Half of these cases terminated fatally." Death is through pulmonary tuberculosis, pneumonia, or nephritis. Facial erysipelas is a frequent concomitant of these cases. Their cause, at the present time, is unknown.

#### REPORT OF DR. A. J. MARKLEY ON THE SKIN APPEARANCES.

The case above referred to was seen in consultation with Dr. Van Zant, on January 22nd, 1910, and presented at that time the following dermatologic aspect: The whole of the face and particularly the eyelids, lips, nose and ears, were enormously swollen and of deep pulplish-red color; the color extending upward to the border of the scalp and downward over the neck, both in front and behind, fading away over the chest and shoulders. The surface of this area was in great part covered by thin, closely adherent crusts, with a few small bullae about the neck. The trunk was thickly strewn with a dusky red, papular eruption, each papule about the size of a split pea, but not covered by crust or scale. On the backs of the hands and about the wrists was a number of definitely circumscribed elevated patches, varying in size from a finger nail to the palm of the hand. These patches were covered by thick, dry, firmly adherent crusts or scales, the removal of which showed a red, slightly excoriated surface with widely dilated follicular orifices. The mucous membranes showed no special changes, and the legs were practically clear. After the intense inflammatory condition had subsided, there were sharply outlined patches on the cheeks, nose and forehead, with firmly adherent scales and evident follicular involvement, with some tendency toward superficial scarring.

Cases of this type were originally de-

scribed by Hebra, who denominated the facial condition as "*Erysipelas faciei perstans*," the appearance of which closely approaches that of true erysipelas.

In this case the diagnosis of toxic erythema might perhaps have been justified, particularly since the close etiological and pathological relation between the toxic erythemas and lupus erythematosus has been well demonstrated, but the surface condition of the eruptive areas in this case, with the adherent crusts and patulous follicular openings, certainly belongs to lupus erythematosus rather than to any other form of erythema. The patches on the backs of the hands were quite characteristic and with the thick, adherent scales and underlying excoriations and manifest follicular involvement, formed a picture not to be mistaken.

Whether the disease be due to a profound toxic disturbance with marked systemic effects and rapidly ensuing vascular and trophic changes, as in this case, or whether it be due to a less intense toxæmia, enhanced by local irritation,—the final pathologic result is the same, the only variation being in the intensity or the extent of the clinical manifestations. Lupus erythematosus is not to be regarded as primarily a disease of the skin, but as having its origin in some form of functional or metabolic disturbance, which results in the production of a varying degree of toxæmia, the first effect of which is a more or less localized vascular dilatation, followed by inflammatory and finally degenerative and trophic changes in the skin.

#### DISCUSSION.

DR. A. J. MARKLEY, Denver: There is very little to add to what has been said by Dr. Van Zant in his excellent general description of this case. Cases of this kind are very rare indeed, and because of the accompanying severe general symptoms they almost always come first into the care of the family physician. The dermatologist sees them only in consultation. Lupus erythematosus belongs to a group of diseases which includes pemphigus, pityriasis rubra, the toxic erythemas and a few

others, which all have their origin in functional or metabolic disturbance resulting in the production of a toxemia whose evident effects are cutaneous and nervous phenomena. It is extremely important to realize that none of these conditions is primarily a disease of the skin. A proper conception of any one of them must take into account the internal disturbing factor, and, while we must admit that the exact nature and origin of these toxemias are at present unknown, we can nevertheless readily conceive the pathologic process by which such a soluble, circulating toxin may act upon vascular and nervous structures to produce just such a clinical picture as we see in this case. No plan or method of treatment which is directed solely toward the removal of the skin symptoms will meet with much success. The proper treatment necessitates a conception of the disease in all its relations, and although treatment of any kind is often of no avail, merely symptomatic treatment is always so. Evidence of internal functional or organic disorder is usually furnished by the kidneys, and most of these cases have sooner or later marked kidney symptoms.

The outlook then in acute or chronic disseminated lupus erythematosus is highly unsatisfactory, with a percentage of mortality of at least 50, and those who survive are affected more or less permanently and hopelessly with the chronic localized form.

#### DISCUSSION CLOSED.

DR. C. B. VAN ZANT, Denver: I feel sure we have all been interested in the last several years in the series of articles which Osler has written on the erythema group of skin diseases. To these I was naturally attracted in my studies of this particular case, but in looking over the very large array of cases which he gives in those articles, I found nothing which seemed to tally with this case in its special features. I think, moreover, it is an unfortunate thing that in the early nomenclature of this disease it should have been called lupus in any form, for when we hear that word we incline toward the thought of a tubercular lesion; whereas most authorities on this particular disease are against the idea that the bacillus tuberculosis has anything whatever to do with this special form of so-called lupus.

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### THE DWARF TAPE WORM (*HYMEN OLEPIS NANA*) IN AMERICAN CHILDREN.

Report of a Case Complicating Chorea

By J. W. AMESSE, M. D.,

DENVER, COLORADO.

The remarkable development of our knowledge, during the last decade, of such important parasitic intestinal affections as amebiasis and hook-worm disease has stimulated clinical research in many directions; and has brought into the lime-light of medical significance many organisms hitherto regarded as of no pathogenic import.

Among the parasites whose life history these investigations have clarified and assigned definitely as a factor in disease in man is the dwarf tape worm. Prior to 1903 this diminutive member of the cestode family was considered essentially a parasite of rats and mice, and without pathological importance, even in rodents. But two instances of its occurrence in man had been noted up to this time; once by Bilharz in 1851, in the post-mortem examination of a child at Cairo, Egypt, and again in 1873 by Spooner of Philadelphia. In both these cases the infection was considered of interest chiefly through its extreme rarity, rather than through any medical consequence.

Seven years ago, Stiles (1) whose far-sighted estimate of the prevalence of hook-worm disease in this country finally led to the discovery of *Uncinaria Americana*, and made possible the solution of a gigantic sanitary and economic problem, reported several cases, and advanced the opinion that this infection would prove to be much more common than was generally believed.

Since that time evidence has rapidly accumulated to prove that the dwarf tape worm is, both in its frequency and in its pathogenesis, the most important of the cestodes in the United States and probably in most sections of Europe.

Calandruccio, for example, estimates that 10 per cent. of the children of Sicily harbor these worms—and as the majority of these children will eventually emigrate to this country it concerns us as much as Italy.

In B. H. Ransom's monograph (2) "An Account of the Tape Worms of the *Hymenolepis*, Parasitic in Man," published in 1904 as serial number 18 of the Bulletin of the Hygienic Laboratory, a very complete resume of the 104 cases reported to date is given, together with the history of six infections found by the author and by his associates in 3,500 examinations at Washington.

In this series but two cases of *Tinea Saginata* were found and none of *Tinea Solium*, demonstrating the relative frequency of cestodal invasion in the institutions concerned.

Hallock (3) in the same year reported two further cases in soldiers, probably infected in the Philippines. In 1906 Lambert (4) and Deaderick (5) reported five cases. Schloss (6) added fourteen cases in 1909, found in the routine examination of 230 children of New York City, and during the current year (7) has reported twenty others among 280 tenement children. Bass and Gage (8) have just reported fifteen instances of infection in New Orleans, making in all sixty-eight American cases thus far recorded.

To this number I wish to add the case discussed below, from the service of Professor Howland, visiting pediatricist to Bellevue Hospital.

It has been shown that approximately 75 per cent. of these infections appear in persons under fifteen years, and the harmful effects associated with this specific taeniasis must be looked for in young subjects.

A brief review of the zoological characteristics of this worm may not be out of place at this point. *Hymenolepis Nana* is

the smallest tapeworm known to infect man, measuring 5 to 40 mm. long, by .5 to 1 mm. wide; consisting of 100 to 200 segments. The eggs, numbering about 100 in each segment, average 40 microns in diameter, are oval or spherical in shape and possess a double membrane.

Its normal habitat is the small intestine of the brown and black rat, the dwarf field mouse, the house mouse, the garden dormouse, and man. In its development it is distinctive in that it requires no intermediate host. The eggs escaping in the feces, say of a house mouse, infect foodstuffs, such as crackers, which form so distressingly large a component in the diet of children of the poorer class. Shortly after swallowing, the embryo bores into the villi of the intestine, and in a few days reaches the larval form. This finds its way back to the lumen of the bowel and develops into the adult stage. From now on, auto-infection recurs in the patient, in addition to his potential relation to further transmission in the family or among his playmates at school.

The size of the worm precludes the possibility of *H. Nana* producing symptoms through purely mechanical effects, even in cases of the heaviest infections. The local lesions are slight. We must, therefore, adopt the conclusions of Mingazzini, who believes the ill effects noted are due to the absorption of a toxin elaborated by the parasite.

Among the symptoms accredited to this toxin, many are severe and fairly constant. About 50 per cent. of the children infected reveal visible effects of the disease. On the part of the digestive system we may have: abdominal pains, with or without diarrhea, perverted appetite, bulimia, gastric dyspepsia, frequent vomiting, gastro-intestinal disorders of a functional character. Where the nervous system is more especially involved we may find: headache, strabismus, tremors, epileptiform or chore-

ic convulsions, paresis or paralysis, and melancholia.

The common nursery signs of intestinal worms, pruritis of the nose or anus, grinding of the teeth during sleep, and so on, are usually absent. Of course the tendency is to attribute to this origin all variations from the normal, short of polydactylism, once intestinal worms have been demonstrated in a given case, but ample evidence exists to place this form of taeniasis among the actual disease entities. The case I desire to report follows:

T. K.—Female; age 7; white; nativity, New York. Family history without bearing on the case.

Previous history: First child in family; normal birth; breast fed for one year; measles at four; no other ailments.

Present illness began two months before admission, with irregular muscular twitchings especially, noticeable on the right side. The patient was treated in hospital and was slightly improved, but the movements returned on removal to her home in a crowded East Side tenement. For the past month the condition has been growing worse.

Physical condition: A slender child, fairly well nourished; good color; mentality normal; double internal strabismus; heart sounds normal; pulse regular, easily compressible and of good quality; throat, chest, abdomen and genitals normal for age. Irregular muscular twitchings of right arm and leg, arrhythmic in character, and increasing with mental perturbation of the patient.

Treatment: The usual method of treatment for chorea of this type was followed—rest in bed, isolation from other patients, nourishing but easily digested food, free catharsis and arsenic in the form of Fowler's solution.

This plan was carried out for three weeks without benefit. The routine examination of stools in the ward, however, showed the

presence of whip worms in this child in considerable numbers, and as symbiosis is common in infections with the *Trichuris Trichiura*, harmless in themselves, an anthelmintic was administered which resulted in the expelling of between 750 and 800 dwarf tapeworms in a single movement. Subsequent stools brought away fully as many more. Improvement was so prompt that the parents insisted on the patient's discharge on the following day, before a blood examination could be carried out, but this would undoubtedly have shown a decided eosinophilia.

A visit to the child's home, a squalid tenement on East Fourteenth street, gave additional evidence of the role *Hymenolepis Nana* played in this case. The apartment was infested with mice, and the daily food supply was scattered within easy reach.

Cases such as these demonstrate the value of routine examination of the intestinal contents. There is no question that many affections of obscure origin, stubbornly resisting treatment, especially in children, would be cleared up by a systematic investigation of the feces. Just why this is so frequently neglected is not easy to determine in these days of intensive study. Possibly the natural repugnance to these examinations is carried over in great measure from the lay period to the professional career, but a more probable solution lies in the inadequate and wholly ineffective clinical methods of diagnosis taught undergraduates in the average medical school of this country.

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## THE TRANSMISSION OF CONTAGIOUS DISEASES.\*

BY M. KLEINER, M. D.  
DENVER, COLO.

Sanitary authorities are not in accord in their classification of contagious diseases. The Board of Health of the City of New York has adopted a provisional arrangement which simplifies and eliminates disagreement, by including under the division "very readily communicable" the diseases which are generally considered contagious. These include the exanthemata and typhus fever, to which should be added diphtheria and whooping cough.

This disposition, as their sanitary code states, "is of practical importance and of scientific significance in dealing with the sanitary features of administration. The distinction is furthermore of importance, because it avoids the misunderstanding and alarm frequently caused by including in the same class the very readily communicable diseases, (such as smallpox) with the much less communicable diseases (such as tuberculosis) which require very different sanitary measures for their control."

Substituting for contagious a classification into; very readily communicable, readily communicable, communicable; allows one readily to grasp the basis of the division. The weight of this is comprehended when we recall how perplexing it is to explain the medical differentiation of infection from contagion and the various interpretations defining these terms

It is not our province to enter into the details of transmission, but to enquire why infectious diseases continue when we have very definite means for their prevention.

That we do not know the actual causative organism of them all, or the exact mode of communication, or how to produce immun-

ity from them, does not constitute a satisfactory explanation.

The specific cause of diphtheria is clearly understood, and we are convinced that vaccination immunises against smallpox, yet both diseases continue prevalent. "We point with pride" to the prevention of pandemics, with which of late years we have frequently been threatened. Why are we successful in the one instance, and in the other unable to cope with an analagous class of diseases which are more or less endemic or epidemic!

It may seem unwise to introduce into the discussion the politico-economic question of the efficacy of federal over state supervision. We must admit that more than one example can be cited of the failures of state or municipal health officers to check an epidemic invasion, immediately followed by successful national authority.

This is not an argument for national interference in state or municipal sanitation, but a plea to adopt the methods of the federal government.

The abolition of party politics in the appointment of local health officers and of their subordinates ought to be demanded, as it is not infrequent that an expert officer is superseded by one totally inefficient, when the political atmosphere changes.

The necessity for men of special training to fulfill the duties of health officers is evidenced by the recent action of several universities which have instituted a course leading to a special degree in sanitation.

Specialists in whom we have confidence devote their entire time to the practice of their specialty, and it is impossible for a sanitarian to be equally capable unless he applies his entire time to the duties of his office.

With the exception of clerical or menial positions, the assistants of the department of health should be, as far as practicable, graduates in medicine, and all subordinates should be especially skilled in their assigned positions.

\*Read at the annual meeting of the Colorado State Medical Society, Colorado Springs, Oct. 11-13, 1910.

Immediate notification to physicians of the appearance of any very readily communicable disease would be of incalculable benefit in placing the practitioner on the alert, and would help him to diagnose the atypical or mild cases which are frequently the source from which the disease spreads.

The errors or shortcomings of the medical profession are those of omission rather than commission.

There is a laxity in co-operating with the health department, and inexcusable negligence in making prompt reports.

The details of prophylaxis practised by the medical attendant are often not in accordance with the teachings of modern preventive medicine. Attendants upon these cases should be properly gowned and should pay the necessary attention to disinfection of hands and instruments. The instruction by example to the uninformed, and the avoidance of being a possible carrier of disease will more than repay for the time and effort expended.

The education of the public is in the end the solution which will exercise the greatest controlling influence in the dissemination of communicable diseases.

The ever increasing numbers of "psychologicistic paranoiacs" banded under pseudo-religious or scientific denominations, who believe "that disease is a dream," emphasises the necessity for continuous public instruction on the contributions of modern medical science to the prevention of disease.

It may be difficult to prevent the subjects of this baneful psychological aberration from endangering their own lives, but they certainly should not be permitted to jeopardise the lives of others.

Many of the problems of effective sanitation are practically solved, and the insistence on the observance of the facts we do know, will in time remove this modern barrier to our efforts to eradicate contagious disease.

## DISCUSSION.

DR. J. A. PATTERSON, Colorado Springs: I am especially interested as to the transmission of scarlet fever from an aural discharge, which takes place from or accompanies scarlet fever. We had in this city a very sharp epidemic, very quickly ended, of scarlet fever, but there are remaining some discharging ears. The literature is rather deficient as regards the fact, whether there is a transmissibility from the aural discharge, and if so how long that transmission can possibly remain after the ordinary quarantine is ended. From the title of this paper I take the liberty of asking this question.

## DISCUSSION CLOSED.

DR. M. KLEINER, Denver: My paper did not go into the scientific details of the actual transmission. In reading over the literature I understand it is the discharge from the ear that remains contagious, as well as the early desquamation. The late desquamation is not an element in the contagion of the disease. No time limit has been fixed in which it is said to be contagious.

## *A DIETARY STUDY IN THE NATIONAL SWEDISH SANATORIUM, ENGLEWOOD, COLORADO.\**

BY C. D. SPIVAK, M. D.,  
DENVER, COLORADO.

### *Introduction.*

It is now conceded by all that the tuberculous process is largely dependent upon the state of nutrition. Hence, a proper diet in tuberculosis is next in importance to fresh air. From an historical standpoint the use of fresh air as a therapeutic measure is of but recent origin. The use of a proper diet, however, is mentioned by every writer from Hippocrates to our own day. The difference between the two physiological therapeutic measures, air and food, is that whereas the former can be used in unlimited quantities, the latter must be regulated as to quantity and quality.

The demand for accurate information upon the subject of feeding tuberculous patients has been but poorly supplied, notwithstanding the fact that many bulky vol-

\*Read at the annual meeting of the Colorado State Medical Society, Colorado Springs, Oct. 11-13, 1910.

umes have been recently published upon the subject of tuberculosis. The deplorable lack of knowledge of clinical dietetics in general and of dietetics in tuberculosis in particular is due to the fact that the subject is studied from a wrong point of view, namely, that the food bears the same relation to the healthy as to the sick, that in both cases it merely supplies a physiological want. As long as this view prevails, our progress in clinical dietetics will be slow. The right view of the matter is that just as disease is defined as being an increase, diminution, abolition, or perversion of a normal physiologic function, so all physiologic factors, as light, air, food, etc., can be made to affect the organism in such a way as to increase, diminish, abolish or pervert certain physiologic functions. The therapeutic use of air is an example near at hand. To the healthy individual it is a physiologic factor of vital importance. To the consumptive, however, the rarefied air of great altitudes, in addition to its physiologic action becomes also a therapeutic agent. It is the same as regards food. In the healthy, food is a physiologic factor of vital importance. In disease it should be used qualitatively and quantitatively in such a way as to add to its physiological value also a therapeutic influence.

From available writings I can gather but few references to painstaking dietary studies in institutions for tuberculous patients made in this country, and I do not know of any made in Colorado. Dr. C. F. Longworthy, Expert in Nutrition, Office of Experiment Stations, United States Department of Agriculture, under whose direction numerous dietary studies have been made in homes, asylums, almshouses, etc., in reply to a request for information, wrote that not a single study has been made by the government in institutions for tuberculous patients, and urged upon me to take up the study of the diet in sanatoria

for tuberculous patients in the State of Colorado.

I have the honour to submit to you the material in tabulated form of my first dietary study in Colorado, made at the National Swedish Sanatorium, Englewood, Colorado.

#### DESCRIPTION OF THE SANATORIUM.

The Swedish Sanatorium is situated on a knoll about half a mile from the car line in the southern suburb of Denver. The view is a magnificent one and is unobstructed towards all the points of the compass. The patients are housed in tents with shingled roofs, and but half a dozen beds are kept for very advanced cases in a commodious screen-porch on the second floor of the administration building. The administration building consists of an office, an assembly room, dining room, kitchen, pantry, and several rooms for the employes. The water is obtained from an artesian well on the premises. The patients do not receive any specific treatment, the main reliance being placed upon fresh air, good food, and rest.

#### METHOD OF MAKING THE DIETARY STUDIES.

1. The following method of procedure has been found to answer the purpose of a dietary study: In the afternoon of the day preceding the study, all the patients were weighed and measured; the temperature and pulse were taken, and a note was made of the age, sex, stage of the disease, state of the appetite, bowels and teeth, the shape of the nails, and the color of the eyes and hair.

2. After supper of that day every article of food found on the premises—store-room, kitchen, cellar and ice-box—was carefully weighed and recorded. Even the salt, pepper, mustard, etc., in their containers usually to be found on the table of the dining room, were taken account of. This step we call the *initial inventory*.

3. All supplies purchased during the

week are recorded as soon as they are received.

4. The following data were recorded for each meal: (a) The number of patients who take their meals in the dining room; (b) the number of patients who take their meals in bed; (c) the number of employes and (d) the number of guests. The (e) menu of each meal of the day was recorded as well as (f) the state of the weather. The amount of (g) waste removed from the dining room and the tents after each meal was carefully weighed, or approximated. The study was continued for seven days.

5. In the afternoon of the seventh day all the patients were weighed for the second time. In the evening of the same day the food materials found on hand in the store-room, kitchen and ice-box were carefully weighed. This last step we call the *final inventory*.

The calculation of the amount of food consumed during the study week is made by deducting the quantity of food found at the final inventory from the sum of the quantities of food found at the initial inventory plus that purchased during the week. The composition of the food materials and fuel value of each article were then calculated from the various tables given in the government publications.

With the exception of one patient, a native American lady, a graduate nurse, all the inmates were natives of Sweden. During the week of our study there were at the sanatorium eighteen men and thirteen women. The average age of the men was 33, the youngest 19 and the oldest 52 years old. The average age of the women was 29, the youngest 17 and the oldest 56. The average weight of the men was 129 pounds and of the women 123 pounds. The average height of the men was 5 ft. 8 in., the tallest man was 6 ft. 11½ in., and the shortest was 5 ft. 2 in. The average height

of the women was 5 ft. 3 in., the tallest being 5 ft. 6¾ in., the shortest 4 ft. 11 in. The average transverse diameter of the thorax, the tips of the calipers touching the axillary line on the level with the nipples, was in the men 10.5 in., and in the women 9.5 in. The average of the antero-posterior diameter of the chest, the tips of the calipers touching respectively the sternum and spine of the vertebra on the level of the nipples was in the men 7.3 in. and in the women 7.0 inches. The state of the teeth was found in the men: perfect, 1; good, 2; bad, 14. In the women: artificial, 2; good, 2; bad, 5. Club nails have been found in 17 patients out of 25 examined, the percentage of club nails in the men being greater than in the women. The appetite was good in 17, fair in 3, poor in 5. The state of the bowels was: constipation, 6; diarrhoea, 2; regular, 17. The color of the eyes in the men was: blue, 15; brown, 1. In the women: blue, 7; brown, 2. The color of the hair in the males: light, 11; brown, 4; black, 1. In the females: light, 5; brown, 4. As to the stage of the disease they were classified as follows: 1st stage, 6 cases; 2nd stage, 16 cases, and 3rd stage, 10 cases. The advanced cases represented 84 per cent.

#### THE EMPLOYES.

The employes consist of a manager, matron, nurse, cook, second cook, waitress and laundry girl, all women except the manager. They eat at the sanatorium in the same dining room, only at a separate table and at a different hour of the day, the same food, cooked in the same kitchen as that used for the patients.

As all the inmates and the employes are Swedes, the above data give a composite picture of the type of patients treated in the sanatorium, which, besides its clinical value, is also of importance from an ethnic standpoint.



## DETAILS OF THE DIETARY STUDY.

The study covered a period of seven days, beginning Monday, May 2, and ending Monday, May 8, 1910. The highest number of patients at a meal was thirty-three and the lowest thirty-one. The average number of patients who took their meals in bed was three per day during the week. As all the food is prepared in one kitchen, and as we have not been in a position to make our calculations from cooked foods, it was impossible to determine the amount of food consumed by the patients and by the employees separately, and, therefore, all our calculations are made on the basis of the number of meals served during the week. These meals were served as follows: To patients, 661 meals; to employees, 197 meals; and to guests 8 meals. Total meals served, 866. The quantity of food consumed by each person per day computed by weight (excluding the water taken pure and used in tea, coffee and soup) was 6.4 pounds. The number of calories per day per person was 3867.66, out of which the protein calories were 662.20, fat calories 1676.60, and carbohydrate calories 1521.52. Of the 662 (in round numbers) protein calories, 522.18 were derived from animal food and 140.30 from vegetable food. The cost of maintenance per patient was \$.3358 per day, or \$2.35 per week.

The number of meals served per day was three, and some of the patients took lunches consisting of milk and crackers. All the foods, cooked and otherwise, were of the same quality used generally in the United States, with the exception of the breadstuffs. There is always to be found on the table the following breadstuffs: Skorp-or, or what is known as Holland rusks; Kringle, a kind of a sweet pretzel; Limp-or, a very palatable rye bread, and Knackebrod, or hardtack. This hardtack is prepared from rye bread, with or without yeast, and resembles very much in appear-

ance the unleavened bread (Matzos) used by the Jews on Passover.

At the twenty-one meals served during the study week breakfast foods including Ralston, cream of wheat, rolled oats and tapioca, 7 times; meat, including beef, lamb and pork, 12 times; soup, 7 times; potatoes, 12 times; eggs, 5 times; various puddings, 4 times; and fish, pancakes, fresh onions, fresh peaches, spinach, custard, dry peaches (stewed), muffins, stewed peas, apple dumplings, pickles, macaroni and cheese, rhubarb, cucumbers, peach frappé and canned peas once each.

The weather during the week was as follows: May 2nd, snow and later rain; 3rd, cloudy; 4th, 5th and 6th, fair; 7th, rain (p. m.); 8th, fair.

At the end of the week the weighing of the patients showed that 10 men gained 20 pounds and 4 men lost 5 pounds; 6 women gained 10 pounds and 2 women lost 3 pounds. The net gain in weight for all the inmates of the sanatorium was 22 pounds in 23 patients, who were weighed before and after the study week.

In conclusion I wish to say that I abstain advisedly from making any generalizations, or from entering into a discussion as to our findings. We will reserve this privilege for the time when we shall have obtained additional data from other institutions, and after we shall have repeated the dietary studies in the same institutions under other conditions and at another season of the year.

We intended this report to serve as a stimulus to superintendents of sanatoria to take up the study of diet in a systematic and scientific way for the purpose of drawing their own conclusions as to the best diet for their tuberculous inmates. It is high time that in the treatment of tuberculosis the kitchen should be placed at least on the same level as the pharmacy.

I wish to express my sincere gratitude to Dr. Bundsen, the Medical Director of

the National Swedish Sanatorium, for granting us the privilege of carrying on the dietary study, and to Mrs. Almquist, the matron, Miss Burgren, the nurse, and Mr. Mywald, the manager, for their hearty co-operation and valuable assistance during the entire week of study.

#### DISCUSSION.

DR. J. N. HALL, Denver: Unfortunately I was obliged to leave the room just as the Doctor began to read, and so I missed a portion of the paper. I wish to say, however, that I think the study of dietetics, metabolism in general, is a very important thing in the matter of the treatment of consumption, and I wish to say that I approve very highly indeed of the doctor's method of getting at this subject. I am sure from what we know of his thoroughness in other matters, that he will give us a great deal of help along this line, and I feel like helping him to get all the opportunities to facilitate his studies. I am sorry not to be able to discuss the matter more intelligently.

### RETROPHARYNGEAL ABSCESS.\* REPORT OF CASES.

By WM. C. BANE, M. D.,  
DENVER, COLORADO.

Retropharyngeal abscess is a condition, according to Dr. H. J. Pinches (1) that is frequently overlooked. It is important to detect it early, lest death result from bursting of the abscess into the throat, or lest pus escape downward and produce asphyxia or septic pneumonia. It appears as acute or non-tubercular and as chronic or tubercular abscess. The acute form is the most frequently observed. About 80 per cent. of the cases are in children under two years of age.

Some cases develop in the course of scarlet fever, measles or diphtheria. The inflammation is due to the entrance of pyogenic organisms through the mucous membrane of the pharynx into the lymphatic tissue beneath the mucous membrane, resulting in abscess formation. According

to the experience of Dr. E. M. Holmes (2) and Dr. Chevelier Jackson (3) some cases have developed in the course of otitis media. In most of the cases the abscess is at one side of the pharynx and on a level with the soft palate. It appears as a tense swelling in the pharynx, and develops rather rapidly, and unless incised will usually rupture, emptying into the throat.

There is manifest difficulty in swallowing, loss of appetite, and more or less difficulty in breathing, increased upon lying down. Occasionally the breathing is stertorous. The patient is very restless, pale or cyanotic. Saliva may dribble away from the mouth. There is a peculiar muffled cry. The temperature may vary from 102° to 104° F. The pulse is rapid. A bilateral enlargement of the cervical glands of recent origin, and stiffness of the neck may be detected. At times there is excess of perspiration. In the early stage only slight impediment of respiration and deglutition takes place. The positive sign is the detection of the abscess by palpation or digital examination. The disease should be differentiated from diphtheria, growths, and tonsillitis. The prognosis is good when the diagnosis is made early and the abscess is opened. If seen late the abscess may burst and empty into the larynx.

Early treatment may abort the inflammation, especially if seen before pus formation. The application of carbolic glycerine (10 per cent.) or of a mixture of equal parts of guaiacol and oil of eucalyptus to the inflamed area may cut short the inflammation. The pus should be evacuated as early as detected. Place the patient in the dorsal position with the head and shoulders on an incline downward from the body. Keep the jaws apart, if necessary with a gag. Press the tongue well forward, then pass the finger over the pharyngeal wall to detect any evidence of abscess formation. Some surgeons, among whom is

\*Read at the annual meeting of the Colorado State Medical Society, Colorado Springs, Oct. 11-13, 1910.

Goldstein (4), advise that the incision be made with a guarded bistoury, enlarging the opening by spreading the blades of forceps or scissors, allowing the pus to escape through the mouth by keeping the head downward and turned to one side. The cavity may be irrigated, but as a rule this is not necessary.

Three cases of retropharyngeal abscess have come under my care within the past sixteen months. They all belonged to the more common group, that is, of childhood. The affection is rarely observed in adults.

Case 1.—Joseph K., aged 14 months, was brought to the office by his parents June 16, 1909. The child was very much emaciated and somewhat cyanotic. He slept with his mouth open, and his breathing was laboured. For two months he had had difficulty in breathing and in taking nourishment. The neck was very much swollen at the commencement of the illness, but not very markedly so at the time of examination. An examination of the pharynx revealed a rounded swelling on the posterior wall of the pharynx opposite the base of the tongue. The swelling was quite tense to the finger, with a possible sensation of fluctuation. No adenoids could be felt. The child became very cyanotic during digital examination. He was in such a feeble condition that I hesitated to open the abscess in the office, hence had him taken to the throat department of the medical college, where with the assistance of Drs. Carmody, Collins and Crisp, I operated. While the child was held with its head and shoulders downward I passed a trocar into the swelling and got some thick greenish pus. Into the opening made by the trocar I passed the points of a pair of Hartmann's nasal dressing forceps, and spread the blades, evacuating about an ounce of thick greenish pus that ran from the child's mouth on the floor. A probe passed into the cavity grated on a denuded cervical vertebra. During the following night he

was very restless. The next day he was brighter and breathing fairly well and was able to take nourishment. The child was seen several times after the opening of the abscess and it continued to improve in health.

Case 2. —Albert B., aged 7 months, was referred to me on December 23, 1909. Three weeks previous the babe had measles. For two weeks it gave evidence of pain in the left ear. The temperature at noon Dec. 23, was 102° F. Examination revealed a decided boggy swelling of the right side of the pharynx. Dr. Adelman assisted me by holding the babe on its back with the head and shoulders downward. Tapping of the swelling with a trocar gave vent to some greenish pus. Then the tips of a pair of Hartmann's forceps were inserted and the blades spread, allowing nearly an ounce of thick greenish pus to escape. There was very little bleeding from the edges of the wound. On the second day the abscess was reopened and about a teaspoonful of pus evacuated. The left ear began to discharge on December 25, and continued for several days. Five days after the abscess was opened the swelling was reduced to about one-third the original size.

Case 3.—I was called on August 7, 1910, to see a child 18 months old. There was a history of a throat affection lasting about four weeks. The physician had not seen the child until the day he called me, when he made the diagnosis of retropharyngeal abscess. The child had laboured breathing, and had great difficulty in swallowing food. Below the right ear was a large semi-fluctuating swelling about two inches in diameter, projecting over an inch above the plane of the neck. Some swelling existed below the prominent mass. Examination of the pharynx with the finger revealed a tense tumour on the right two-thirds of the posterior wall of the pharynx, just below the soft palate. The child was placed on its back with the head hanging downward.

The mouth was held open with a cork, and the swelling was perforated with a sudden thrust of closed nasal dressing forceps and then the blades were spread, allowing nearly two ounces of thick greenish foul pus to run on the floor. The swelling in the neck seemed about half as prominent after the abscess was evacuated. The patient's physician reported on September 22, that the child had made a good recovery, the swelling in the neck disappearing entirely without further treatment.

Owing to the difficulty of using a bistoury on account of lack of space and the risk of cutting more than the abscess wall, I would advocate the use of Hartmann's nasal dressing forceps for perforating and making a free opening. At the last meeting of this society I advocated the same forceps for opening a peritonsillar abscess and the more I use them the more convinced I am, that they are superior and safer than a knife. Dr. H. Hays (5) of New York City, has recently added to forceps of a similar shape, a canula, to allow of irrigation of the tonsil crypts and peritonsillar abscesses.

330 Metropolitan Bldg.

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#### DISCUSSION.

Dr. MELVILLE BLACK, Denver: Dr. Bane has had, I think, rather an unusual experience, in having had three of these cases in sixteen months. In the twenty years that I have been working in this field I have seen only two cases. Dr. Bane does not tell us how many cases he has seen prior to these three, but I judge that if he had seen any others he would have reported them with these. Is that correct?

DR. BANE: Only three; that is all I have ever seen.

DR. BLACK: So you see the condition must be rather a rare one.

The first case that I saw was in a child, the case very similar to Dr. Bane's, and under-

went the usual resolution that these cases follow after the abscess is opened.

The second case that I saw was a very unusual one. It was in a man about forty years of age, a man with tuberculosis, which had passed through its various stages, pulmonary, joint, and even to a sort of general tubercular rheumatic condition. This man came to me complaining of more or less difficulty in deglutition. I looked at his pharynx, directly, and indirectly with the mirror. It seemed to have more or less of a swollen appearance. Palpation, however, did not reveal any pus and I thought it was simply a rather abnormal bulging of the pharynx and gave the matter no serious consideration. The man came in again in about ten days and said that he was having somewhat more difficulty, but I was unable yet to detect any particular difference from the first appearance. He came in again in about three weeks more, I guess, and at that time the condition was plainly apparent. There was a very distinct retro-pharyngeal abscess. This had gravitated downward so that in looking directly at the posterior pharyngeal wall, the bulging was not nearly so marked as when felt lower down in the region of the larynx. It was bulging tremendously, hanging clear over the larynx. The abscess was opened, and it was believed to be, and unquestionably was, tubercular. He had a very marked caries of the cervical vertebra, which went on from bad to worse. The head had to be supported with an apparatus provided by Dr. Packard. The patient died here a short time ago, but lived something like two or three years, I think, after the occurrence which I have mentioned.

The opening of these abscesses, it seems to me, is not a very important matter. I can see how a pair of forceps, such as Dr. Bane advocates, in the hands of some perhaps who are not as expert as Dr. Bane, and used on a child who was exceedingly restless—and I never have seen one that was not—might cause harm in this direct thrust which he speaks of. It readily could be pushed in between the lamina of the vertebra, and very serious damage done. It seems to me that a good sweep with a guarded bistoury would be a safer procedure than the direct thrust. There is no danger thus of cutting anything of a particularly serious nature anyway; there are no blood vessels along the posterior wall underneath the mucous membrane, of any serious importance. Another important consideration is to open these abscesses very low, make the opening as low as possible so as to get thorough drainage from that situation. If the abscess is opened half way up, or further up towards the top, the drainage naturally will not be nearly so good, and the pus, etc., ought to be compressed out for a few days. However, in children, where they are lying most of the time on the back anyhow, it would not make very much difference, because the drainage would be about as good one way as the other. But still from the standpoint of surgery it is always best to open at the most dependent portion, and it seems to me it would

be a little difficult to do this with the forceps, whereas with the bistoury you can push the tongue down, get just as far down as you possibly can, and there is no particular trouble in getting to the top of the abscess. I believe in ripping these things wide open.

#### DISCUSSION CLOSED.

DR. W. C. BANE, Denver: I will simply state that Dr. Black is probably right that there is danger in thrusting the forceps without due care, and damage may be done, but I doubt if there is very much danger. I believe it desirable to avoid the bistoury, using only the forceps for puncturing and evacuating the abscess.

## *Progress of Medicine*

### INTERNAL MEDICINE

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#### PECULIAR ELONGATED AND SICKLE-SHAPED RED BLOOD CORPUSCLES IN A CASE OF SEVERE ANAEMIA.

J. B. Herrick (Archives of Internal Medicine, Nov., '10) reports unusual blood findings in a young West Indian negro, who had applied at the hospital for the treatment of a "Cold," accompanied by fever and cough; he was also weak and dizzy.

At the age of 10 the patient had Yaws, and 3 months previous to admission had had a Purulent Otitis. He denied Gonorrhœa and Syphilis, and was sure he never had the Ground-Itch.

An examination shows, besides the ordinary evidences of Bronchitis; "Cardiac enlargement, albuminuria and cylindruria, general adenopathy, icterus, with a secondary anæmia not remarkable for a reduction in red cells or hæmoglobin, but strikingly atypical in the large number of nucleated red corpuscles, of the normoblastic type, and in the tendency of the erythrocytes to assume a slender, sickle-like shape."

Leucocystosis and eosinophilia was also noted.

These elongated, crescentic forms were found in the unstained specimens of fresh blood, and took the Ehrlich triacid stain, as did the ordinary red cell. A nucleus was found in a few of the elongated forms.

Under ordinary treatment for bronchitis and anæmia the patient improved somewhat and was discharged from a hospital.

Subsequently he had an attack of monoarticular arthritis, due to trauma and subsiding in ten days; an attack of severe muscular pains; and still later an attack of epigastric pain accompanied by jaundice.

No diagnosis was made, although syphilis is suggested by many facts. At the time the patient was under observation the Wasserman test was not in use.

The possibility of uncinariasis seemed to have been eliminated, as was also a possible chronic acetanilid poisoning.

Herrick states that, "the question of diagnosis must remain an open one unless reports of other similar cases with the same peculiar blood-picture shall clear up this feature."

Accompanying the report are excellent microphotographs, which show very well these very striking forms of red blood corpuscles.

D. J. S.

### SURGERY

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#### CHRONIC INTESTINAL STASIS.

Wm. Arbuthnot Lane, (Surg. Gynec. and Obsts.), divides the changes brought about in chronic intestinal stasis into the mechanical and the toxic. The mechanical changes are:

1. An abnormal fixation of the pylorus by the development of a new band, which may interfere with the normal functioning

of the cystic duct and gall-bladder. It may also produce a kink, thereby interfering with the normal functioning of the stomach and duodenum, with a subsequent formation of ulcer.

2. A new band may develop on the under surface of the mesentery of the last few inches of the small intestines, and so produce a kink of this portion of the bowel. This results in a dilation of the bowel, which may extend up to the pylorus, and the resulting symptoms may resemble appendicitis.

3. Strong bands may develop between the outer aspect of the cæcum and the ascending colon and the adjacent abdominal wall. The appendix may become anchored in this way, and so may become occluded distal to the point of fixation. He believes the development of so-called appendicitis is almost always produced in this way. When the appendix is free, it is probable that the ileal kink is responsible for the symptoms.

4. Bands may form on the outer surface of the mesosigmoid and so convert the mobile loop of sigmoid into a straight fixed tube, thus rendering the passage of fæces difficult, and this difficulty is manifested by engorgement, abrasion, ulceration, or cancerous or other infection of the mucous membrane.

5. The left ovary is frequently involved in the adhesions which bind down the sigmoid and upper rectum. The ovary becomes cystic in consequence of this fixation.

The toxic changes are:

Loss of fat, circulatory changes arising as a result of changes in the muscle structure of the heart and vessels, staining of the skin, pain and weakness in the muscles, headache, diminished resistance to infections, and cystic tumours arising in the breasts.

In conclusion he states that the relief afforded by operation, which consists either in short circuiting or removal of the large

bowel, is marked and out of proportion to the risk incurred, which is small indeed. The author's ideas on this subject are decidedly unique, and the reader is referred to the original article for more detailed information.

H. M. C.

#### FIGURES ABOUT FRACTURES AND REFRACTURES OF THE PATELLA.

Eldred M. Corner (*Annals of Surgery*, November, 1910), has compiled statistics regarding fractures of the patella—from which he derives the following conclusions:

1. Fractures in the lower half of the patella are the most frequent, 83 per cent.
2. Triangular shaped patellæ are the most common—oblique shaped patellæ come next.
3. Transverse fractures are the most frequent—comminuted come next.
4. Three males to one female is the ratio.
5. Fractures of the right patella are more frequent than the left.
6. Two underwent operation to every one that did not.
7. Most frequent age is between 30 and 40.
8. Patella is the most frequently refracted bone in the body.
9. After operation 69 per cent of refractures occur in the first year after the injury.
10. After treatment other than operation, 86 per cent of refractures occur after the first year.
11. The percentage of frequency of refractures is approximately the same after operation as it is after non-operative treatment.
12. The advantages of the operation are solely in the quick and complete recovery of the limb.

#### IS THE SAC OF A FEMORAL HERNIA OF CONGENITAL ORIGIN OR ACQUIRED?

R. W. Murray (*Annals of Surgery*, November, 1910), calls attention to the fact

that a number of femoral herniæ have occurred during childhood, and in looking over the literature finds 104 cases occurring in children under 15 years of age. In 52 of these cases the hernia first appeared between one and ten years of age. In 200 consecutive post mortem examinations on persons in whom during life there was no history of femoral hernia, he found in 47 bodies, 52 hernial diverticula. In 16 instances the diverticula were bilateral. Arguing from these findings Murray suggests that often there is a congenital hernia of the peritoneum, but the ring is so small that no intestines can enter unless there is some hidden muscular strain. He gives two reasons why femoral hernia is more frequent in women than in men: (1) Because in females the lateral expansion of the pelvis, which takes place about puberty would tend to widen the mouth of a peritoneal diverticulum; (2) On account of increased pelvic pressure during pregnancy.

Murray argues that the gubernaculum extends from the lumbar region through the inguinal canal and has its chief attachment at the bottom of the scrotum, but bands also pass to the groin or crural canal and to the root of the penis. He reports a case where the testicle and tunica vaginalis were found in the crural canal, and assumes from this: (1) That the chief gubernacular band is attached to the bottom of the scrotum and is responsible for the formation of the tunica vaginalis and the descent of the testicle. (2) When the testicle together with a process of peritoneum is found to occupy the crural canal, it is due to abnormal development of a slender gubernacular band. Then he proceeds further and argues that the gubernacular band may cause a dimple in the crural region, which with the growth of the individual may develop into a potential hernial sac.

Murray examined the fundus of the sac of a femoral hernia and found striated muscle fibres which resembled very closely

sections of the structures immediately behind the epididymis and which are normal gubernaculum fibres in the meso-chorium. The discovery of these fibres he thinks is very strong evidence of the congenital origin of these herniæ.

#### GYNECOLOGY AND OBSTETRICS

Edited by

C. B. Ingraham, M.D.,  
Denver, Colo.

#### STERILITY.

Runge, (*Archiv ff Gyn.*, 1909, Band LXXXVII., Heft 3, s. 572) agrees with Bumm that about two-thirds of sterile marriages are due to malformations. In a systematic examination he has especially studied the importance of a well developed posterior vaginal fornix, trying to determine whether and for what length of time after coitus, spermatic particles remain in the secretion of the vagina, the cervix and the body of the uterus. He has compared his finding in the normal individual with those having an infantile development.

Patients complaining of sterility were first examined to exclude high grade alterations of the genitalia, especially of the adnexa. The husbands were inspected to determine the presence of spermatic particles in sufficient number and activity. Six, twelve and thirty-six hours after intercourse the women came to the clinic and without previous digital examination, the vault of the vagina was exposed by means of a speculum and some of the secretion examined. The portio being cleared, secretion from the cervix was obtained and next after thoroughly cleaning the cervix, a syringe nozzle was introduced into the uterine cavity and its contents withdrawn and examined. Test injections were also made with a slimy fluid colored with 5 to 10 c. c. of methylene blue, pads being placed at the vulva and ten, fifteen, and thirty minutes afterwards, examined to see how much of the fluid had escaped.

Sixty-six women who had been married two and one-half years with no children and 17 who had had children were examined. In the 66 women, 51.5 per cent showed no spermatic particles in the genital tract; while of the women who had had children only 17.6 per cent did not show spermatozoa. None was found in the posterior vaginal vault in 77.7 per cent of the sterile and 25.5 per cent of the parous women; none in the cervix of 74 per cent of the sterile and 37.5 per cent of the parous; None in the body of the uterus in 88.5 per cent of the sterile and in 40.6 per cent of the parous. The findings six hours after coitus were the most striking, at this time all the women who had had children and were normal showed spermatic particles, while in more than one-half the sterile women none was present.

For the treatment of these cases there are two objects: (1) To set aside any narrowing of the cervical canal, and (2) to prevent the premature escape of the semen from the fornix. In this last respect the function of the fornix is assisted and increased by elevation of the pelvis during coitus, by tampons of gauze, by massage, by a colpeurynter filled with mercury, by a suitable pessary, and by an operation which consists of dividing the mucous membrane transversely and sewing it together in the longitudinal axis.

Four of the 66 patients have since become pregnant. This does not represent the true number, the author thinks, as after the wish is attained the patients do not return to the clinic.

#### DYSMENORRHEA.

Herman (British Medical Journal, Apr. 17, 1909, p. 937), uses for dysmenorrhea 10 grams of guaiacum resin, three times a day; starting the drug a week before menstruation is expected. It is given in a mixture with milk or gum tragacanth or with malt extract or in a cachet. He claims that in some cases the pain is prevented from

coming on and in others its severity is lessened.

#### PRESENT STATUS OF THE COLON TUBE.

Yates (Am. Jour. Obsts., Nov., 1910), after reviewing the field, states that a few moments spent in consideration of the so-called colon tube would not be out of place. The early interpretation of its utility depended upon the tube's passing through both rectum and sigmoid into the colon and thence upward. Until recently this has been the almost universal opinion. Naunyn (1896), Nothnagel (1898) and Boas (1903), disputed this contention.

The author using all forms of colon tubes, soft rubber, stiff tubes, horse catheters (coiled wire spring) with the patients in all practical positions, was unable, as shown by excellent skiagraphs, to pass the tube into the colon. The tubes bend on themselves and in half the instances it is impossible to tell when the tube is coiling. When an endeavor is made to force the tube upward, positive harm may be caused by pressure, irritation and consequent inability to retain enemata.

On the other hand, water or fluid injected four or five inches into the rectum, is carried upward into the colon and may be found at the cecum in ten minutes. There is good reason to believe that a reversed peristalsis is set up by the stimulation of a rectum distended by water. Some of the skiagraphs show bismuth paste in the cecum thirty-five minutes after injection into the rectum with the patient in Fowler position and later changed to the horizontal.

#### THE RESULTS OF VARIOUS METHODS OF CERVICAL DILATATION.

Bar (L'Obstetrique, Sept., 1909), finds that of 171 patients pregnant eight months or more, in which the de Rieb's bag was used for rapid dilatation of the cervix, the maternal mortality was 4.09 per cent., and the fetal mortality 37.40.

The conditions for which this method



was used were serious heart lesions of the mother, retroplacental hemorrhage, eclampsia, prolapsus of the cord, shoulder presentation with premature rupture of the membranes, hemorrhage from abnormal attachment of the placenta, and death of the mother in labor; the child surviving.

With digital dilatation of the cervix there were 30 cases suffering from considerable laceration of the cervix, to every 100 cases in which this method was tried. Two out of 100 cases died of hemorrhage. Bonnaire estimates that with digital dilatation 16 per cent. of cases have severe laceration. In a series of 159 cases Bonnaire had a maternal mortality of 18.08 per cent. and a foetal mortality of 41 per cent. He believes that it is difficult to maintain asepsis during this procedure. It is difficult to know when the cervix is dilated sufficiently to avoid severe lacerations during extraction, and the hand of the operator loses its strength and skill.

De Rieb advises that the bag be not employed when the cervix is rigid and not dilatable either from cicatricial tissue, cancers, tumours of the cervix, chancre, anatomical lesions, spasm of the cervix, or oedema of the cervix and lower uterine segment.

#### ECLAMPSIA AND PARATHYROID BODIES.

Seitz (Archiv. F. Gynakologie, 1909, Band. LXXXIX., Heft. I.), has sought to find evidence in eclampsia cases where the extract of the parathyroid might be of advantage in the treatment of this condition. His studies lead him to believe that during pregnancy the glands are softened and more vascular. Chromophile cells are increased and better developed than in a non-pregnant condition. In eclampsia these cells entirely disappear or are greatly lessened in number. This is supposed to be a secondary process and not dependent upon the causes which produce eclampsia.

In eclamptic cases there is an increased formation of connective tissue, of fat, col-

loid material and cysts in the glands. That there is lessening in the number of the epithelial bodies does not prove an insufficient function of the parathyroid gland. and without prolonged observation the importance and extent of these changes can not be determined.

Partial or total parathyroidectomy in pregnant animals produces tetanus and not eclampsia. The two conditions are sharply differentiated. The extract of the parathyroid bodies cannot be considered a specific in the treatment of eclampsia.

#### OPHTHALMOLOGY

Edited by

Melville Black, M. D.  
Denver, Colo.

#### ACUTE GLAUCOMA.

Dr. J. M. Heller of New York (*Annals of Ophthalmology*, Oct., 1910), reports three cases of acute glaucoma treated by subconjunctival injections of sodium citrate. This procedure was first recommended by Drs. Thomas and Fischer of Oakland, Calif., in the *Annals* last January. The sodium citrate is used in the strength of a 4 1-2 per cent. solution. Heller used about 8 m. under the conjunctiva. The immediate effect was increase of pain which lasted about two hours. In twenty-four hours the pain was all gone and the tension normal in each case. The vision came up rapidly and remained so except in one case, where a second injection was required. Myotics were used but Heller does not believe that they alone could have been responsible for the remarkable and permanent improvement which followed the use of the subconjunctival injections.

#### VISION AND THE MENOPAUSE.

In the October, 1910, number of *The Ophthalmoscope*, Dr. F. A. Kiehle presents his views upon the influence that the suspension of menstruation may have upon the eyes. The readjustment of the entire

nervous mechanism means that the eyes may and usually do present more symptoms of annoyance than do any of the other organs of special sense. He regards the eye as a portion of the brain itself. He cites its embryologic formation in support of this contention. Its formation is initiated by a protrusion of the lateral walls of the primary cerebral vesicle, forming the primary optic vesicles. These latter detach themselves from the brain until finally they are connected with it by the eye-stalk which gradually becomes a solid mass, the optic nerve. Roughly speaking, the menopause begins between the fortieth and forty-fifth years. This is also about the time when presbyopic changes in the eye begin. Where there is a neurasthenic tendency, the usual presbyopic manifestations are exaggerated. It is easy to believe that mere exposure to light, transmitted by this super-sensitive end-bulb to an unduly sensitised brain might be sufficient irritation to cause persistent and intractable headaches. An interesting sidelight is thrown upon the question by the fact that many women and girls, especially those who suffer persistently from dysmenorrhœa, experience many and varied ocular symptoms at their menstrual periods. Many discover early that at such times they cannot use their eyes for close work without eye tire and headache. The author does not believe that the menopause is responsible for organic diseases of the eye, but that the functional ocular manifestations, such as itching, burning and scratching of the lids, hyper-lachrymation, dryness of the eyes, dimness of vision, especially in artificial light, floating bodies before the eyes, soreness of the ocular muscles, photophobia, light flashes, vertigo referable to vision, sensations of fulness in the eye and head, and last but by no means least, headaches, are due to the changes that the general nervous system is undergoing in adjusting itself to the doing away

with a very important function, namely, menstruation. After careful correction of refractive errors and full correction of all presbyopia present, the most we can do in these cases is to extend to the patient the very reasonable hope that the distressing subjective symptoms will abate with the readjustment of organic conditions, which fortunately can be looked forward to at a not very distant date.

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### NEUROLOGY

Edited by  
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Denver, Colo.

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#### POISONING BY WOOD ALCOHOL.

Up to a few years ago the importance of poisoning by this agent was not recognised; nor was the frequency of these cases suspected. The increased use of methyl alcohol in the arts, and especially its use in the preparation of certain kinds of varnishes has increased the number of workmen exposed to its dangerous effects. Substitution in alcoholic drinks is the chief means of ingestion. In spite of the fact that it is a deadly drug, attempts at suicide by this means have been very rare.

Numerous references in current writings show the increasing attention paid to these cases. Thus Wood and Buller recently published a series of 275 cases with 122 deaths and 153 instances of blindness. The effect of methyl alcohol is peculiar in two ways: first the resistance of different individuals varies greatly after its use, so that in one person two teaspoonfuls have caused blindness, while in another several ounces have been followed by intoxication only; and secondly that, except in very large doses, the serious toxic symptoms may be delayed for twenty-four hours or for several days.

The symptoms are grouped into two sets: those of intoxication and the delayed symptoms. Three degrees of intoxication are

given: the first degree shows symptoms similar to intoxication with ethyl alcohol, with more or less serious disturbances of vision; the second degree corresponds to the unconscious stage of acute ethyl alcoholism, with sudden dilatation of the pupils, which do not react, with complete or nearly complete blindness. If the patient does not die in this stage, recovery is accompanied by dimness of vision, which may increase to complete blindness; the third degree is that in which the patient is overwhelmed by the prostration, and dies in coma.

The blindness itself is characteristic. It is bilateral, usually total, coming on in a few hours or more often in a few days. Then follows a partial restoration of vision, succeeded in a few days or weeks by a more or less complete and permanent loss of vision,, due to atrophy of the optic nerve.

In those cases where the amount taken into the system at any one time is very small, the toxic symptoms may be overlooked. In these cases gradual loss of vision may be the chief symptom; or there may be a low grade of neuritis, corresponding somewhat to the ordinary multiple form. In these cases there is often a severe anæmia with cardiac and gastric disturbances, which may easily be mistaken for simple anæmia.

#### HEXAMETHYLENAMINE IN MENINGITIS.

The discovery of formaldehyde in the cerebro-spinal fluid was the reason for its use in conditions showing meningeal involvement. The instances where it has been used seem to show that some improvement follows; but none of the writers advises its use to the exclusion of other well known and useful procedures.

The advent of lumbar puncture was epoch-making in the diagnosis and treatment of meningeal affections; but was followed by much disappointment because too much was expected of it. It would seem that, with a direct examination of the cerebro-spinal fluid possible, exact determina-

tion of the etiologic factor should also be possible. In those cases where the cerebro-spinal fluid contains the micro-organism in demonstrable numbers this is so; but in many forms the demonstration of the germ is often impossible except by animal inoculation.

The use of hexamethylenamine would, theoretically, be followed by best results in those forms not rapidly going on to pus formation and in which the anti-body is readily formed in the system. This idea is best illustrated by meningitis due to the tubercle bacillus in the first case, and meningitis due to the pneumococcus in the other. The diagnosis of tuberculous meningitis by means of the cerebro-spinal fluid would be a more simple matter were it not for the fact that simple meningitis in children has a clear cerebro-spinal fluid which does not contain demonstrable micro-organisms. The difficulty is still further increased by the fact that the clinical picture is much the same. It is in these slowly progressing, non-purulent cases that a spinal antiseptic should be expected to accomplish the best results, provided that immunity can be established at all.

The hexamethylenamine is used to inhibit germ growth until antibodies can be formed. The development of antibodies is stimulated by the administration of vaccines. Even in tuberculous meningitis the use of urotropin with tuberculin has been followed by encouraging results, but improvement in tuberculous meningitis should not be too quickly attributed to the use of these or other procedures, since remissions and periods of improvement are usually seen whether these measures are used or not.

#### RESECTION OF THE DORSAL SPINAL NERVE ROOTS FOR GASTRIC CRISES IN TABES.

Thomas and Nichols (Jour. Nerv. and Ment. Dis., Oct., 1910), report another case where this procedure was successful, and allude to other cases operated since their paper was prepared.

They give Foerster the credit of having been the first to try resection of the dorsal spinal roots for the relief of gastric crises, although it had been previously used for the relief of other forms of uncontrollable pain. In this case there was some colic remaining, but the patient rapidly improved in general condition. There remained an anæsthetic zone above the umbilicus, with hyperæsthesia below. The bladder disturbance, paræsthesias of the hands and feet, and the lancinating pains were not affected.

The second case, reported by Bruns and Sauerbach, was a case in which the condition had resisted all treatment, and the patient had lost 58 pounds in two years. The attacks were so severe that on three occasions he had vomited hard fæces. In somewhat over a month after the operation the patient gained 45 pounds and in the three months succeeding the operation he had only one slight attack, although he had had them every day for the year prior to the operation.

The case reported by Thomas and Nichols was improved. The patient had developed morphinism, and their final conclusions are withheld until after the cure of this condition.

In general the cases reported show that the method may be of great service in this otherwise uncontrollable condition. It should be the last resort and should not be attempted until all other means have been exhausted. They believe that it should be seriously considered in all cases where morphine is necessary to control the pain, even if the attacks are not very frequent, in view of the fact that the history of these cases shows that the development of morphinism is the rule.

The operation itself is not difficult. The incision is made over the spines to be removed, the muscles are separated and the spinous processes are removed at their base with bone forceps. Small rongeur

forceps are then introduced below the arch of the upper process to be removed, in the median line, and the cut is made upward to allow the introduction of bone forceps. The upper arch is then removed from below upward, and the lower ones from above downward. The dura is then exposed, incised in the median line, the edges retracted, the pia reflected, the posterior roots hooked up with an aneurism needle, and divided close to the cord. The distal end of the cut nerve is then drawn down parallel to the cord, the dura is closed with fine silk, and the skin and muscles with interrupted sutures of silkworm gut.

## DERMATOLOGY

Edited by

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### THE POTENTIAL MALIGNANCY OF WARTS AND MOLES.

In the Journal of the American Medical Association, July 9, 1904, W. W. Keen directed attention to the marked tendency of warts and moles, particularly moles of the pigmented variety, to undergo malignant changes when exposed to constant irritation or subjected to trauma. The rapidly fatal course of such cases when malignancy is established is well known, but it is not sufficiently recognized that warts and moles if definitely elevated are always a menace and "should be removed prior to the least sign of activity."

"The family physician is the one on whom the responsibility for this early removal rests, and to whom, especially, my appeal is directed; often when the surgeon is consulted it is too late and the patient's life is sacrificed."

"Only by iteration and reiteration can the bulk of the profession be reached by such warnings. In the pre-malignant stage, as a rule, removal would be easy, the resulting scar would be much less of a deformity

than the existing wart, mole of nevus, and the danger of malignant degeneration would be entirely eliminated."

In the same *Journal* of Nov. 5, 1910, J. C. Bloodgood deals more at length with the same subject, giving a classification of tumours of the skin, based upon their pathology, and advising operations of varying extent depending upon the variations in malignancy.

"Of 65 cases of malignant pigmented moles there is not a definitely cured case amongst them." In each of these cases there had been a growth visible to its host for many years. The public should be educated to call the attention of the physician to such apparently innocent tumours, and the physician should know when to urge their removal.

In the 65 cases the mole which became malignant was never a flat pigmented area, but a distinctly projecting tumour. "It is my opinion that all such moles should be removed when they are in localities exposed to trauma."

Any congenital mole which suddenly shows any growth, superficial ulceration or scab-formation should be immediately and completely removed, and the sudden appearance in the skin of a tumor resembling a congenital pigmented mole should be regarded as an indication for its immediate removal. In the benign state complete local excision is sufficient, in the malignant state a wide excision should be made and often combined with removal of the neighbouring fascia and lymphatic glands.

#### BACTERIOLOGY AND SERUM THERAPY

Edited by

Henry S. Denison, M.D.,  
Denver, Colo.

#### THE INFLUENCE OF ARSENIC IN IMMUNITY.

Agazzi (*Biochimica Eterapia Sperim.* 1909, Vol. 2) has investigated the effect of arsenic upon agglutinin formation after in-

jection of typhoid bacilli, which was much increased in the arsenic animals. This effect is probably due to the increased metabolism attendant upon the use of arsenic.

#### A NEW PROTEID TEST FOR SYPHILIS.

Pandy (*Neurol. Zentralbl.*, 1910, No. 17) has used in 250 cases the following test—Add to about 1 cc. of concentrated carbolic acid a drop of cerebro-spinal fluid. If the solution contains easily precipitated proteids (that is, globulin) in pathological amounts, a smoky, bluish white precipitate occurs.

In 117 cases of paralysis, 106 reacted strongly positive. The negative cases were also negative to the Wasserman reaction. In 103 nonparalytic cases, only 5 gave a positive reaction.

#### PURE LIPOID ANTIGEN.

In confirmation and extension of Noguchi's claims for specificity of pure lipid antigen in his modification of the Wasserman test, using active serum, MacRae, Eisenbrey and Swift (*Archives of Internal Medicine*, 1910, VI., 469) have found that pure lipid antigen as compared with the pure alcoholic lipid antigen gives the largest percentage of strongly positive reactions, not only by the Noguchi active method, but also by the Noguchi inactive, and by the straight Wasserman. The reactions given are more specific than those obtained by the alcoholic extract. They further found in comparison of the Noguchi modification, both active and inactive with the straight Wassermann, that, of these three, the Noguchi active method gives the most sensitive reaction in syphilis. The reaction should be performed within twenty-four hours after the serum is obtained.

#### CUTANEOUS TEST IN PELLAGRA.

Following the hint recently given by Cole and Thayer, who were able to demonstrate hypersensitization in a case of buckwheat poisoning, as shown by a cutaneous

test similar to the Von Pirquet reaction, Hirschfelder (*Archives of Internal Medicine*, 1910, VI., 614) has attempted similar cutaneous tests with various corn extracts in pellagrins. Contrary to the results obtained in the case of fagopyrismus, he could obtain no evidence of specific reaction. Extracts were made from samples of good corn and various forms of spoiled corn and corn meal, two specimens being obtained from as many insane asylums at the time of pellagra outbreaks. The results of these tests make it improbable that pellagra is due to hypersensitiveness of the individual to corn.

#### THE NATURE OF ANAPHYLAXIS.

Friedberger (*Berl. Klin. Woch.*, 1910, XLII—1922) has injected goat serum into normal guinea pigs' jugulars in varying amounts. The lethal dose is 5 cc. Injections of about one-tenth this dose produced lowered temperature, one-fiftieth no change, one hundredth fever, and one-five hundredth no change again. In sensitized animals these same relations hold, although the lethal dose is reduced by sensitization to .005 cc.

By repeated very small doses Friedberger could imitate any type of infectious fever curve. He believes that anaphylaxis and infection are of the same fundamental nature and are due to anaphylatoxin formation by interaction of specific antigens and their anti-bodies. Therefore, the method of formation is specific in each instance, whereas the toxic substances produced are the same. There is only one anaphylatoxin which, in repeated small doses, produces the phenomena of infection, and in large doses anaphylaxis.

The same author (*Zeit. F. Immunitaets Forsch.* Vol. 7, page 93) has investigated the production of anaphylatoxin in vitro by action of antigen, antibody, and complement. The anaphylatoxin so formed produces all the phenomena of anaphylactic shock. In the same number, however, Biedel and Kraus take exception to his results, so that the theory cannot be considered definitely established as yet.

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#### DR. LOUIS AUERBACH.

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The sudden termination of the life's work of Dr. Louis Auerbach is deeply deplored by the members of the Denver County Medical Society.

His quiet and unostentatious labors in the exercise of his profession were known to but few of his colleagues, due to his modest and retiring demeanor, which deprived us of a closer personal acquaintance with the deceased.

By his countrymen of German birth, Dr. Auerbach will always be remembered with deep gratitude for his earnest labors in the progress and elevation of their fraternal and social organization.

Resolved; that the Denver County Medical Society express its sorrow over the loss of Dr. Auerbach from our midst, and that a copy of these resolutions be spread upon our minutes and another copy sent to the bereaved widow.

PHILIP HILLKOWITZ,  
C. G. PARSONS.  
O. M. SHERE.

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#### DR. EDMUND W. STEVENS.

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The Denver Clinical and Pathological Society is called upon to mourn the loss of a familiar and loved face.

Dr. Edmund W. Stevens had been a member of the Society during a period of ten years. He was a faithful attendant upon its meetings, he participated intelligently in its discussions. His clear mind was well stored with useful information, and he always gave freely of that which he had. Of a kindly and sympathetic temperament, he added much to the pleasure of all who came in contact with him. As a member of important committees he did much to promote the success of the Society. His scientific attainments were marked, and he was held in the highest esteem by all his professional colleagues.

The Society desires to extend to his family and friends the most profound sympathy, and to place on record this expression of sorrow and appreciation.

CHARLES A. POWERS, M. D.  
DAVID H. COOVER, M. D.  
CARROLL E. EDSON, M. D.  
Committee.

Denver, Colo., November, 1910.

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#### IN MEMORIAM.

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Whereas, Almighty God, in His infinite wisdom, has taken from us our beloved associate, Dr. Edmund W. Stevens, who by his eminently high quality of character, professional and personal, had so endeared himself to us; and desiring to acknowledge our appreciation of his exceptional skill as a physician and his brilliant mind upon general topics; then, too, a

personality which endeared him to us all, we the Jefferson Alumni Association of Colorado have

Resolved, That we feel sincere regret at his death and feel that his premature removal from us is a distinct loss to the profession, to the community, and to our association; that we hereby extend this our testimonial of love for him and our expression of sorrow to his bereaved widow; and be it further

Resolved, that these resolutions be published in Colorado Medicine and The Jeffersonian and a copy be presented to his family; also that the same be inscribed upon the minutes of our Association.

(Signed)

GEO. F. ROEHRIG.  
CHAS. F. SHOLLENBERGER.  
SAMUEL W. MILLER.

## Constituent Societies

### CITY AND COUNTY OF DENVER.

A special meeting of the Medical Society of the City and County of Denver was called at 4 p. m. on October 31, 1910, in the Academy of Medicine, on account of the death of Dr. E. W. Stevens.

The members of the society expressed their sorrow and paid tribute to the ability and personality of Dr. Stevens.

Dr. Black moved that a committee of three be appointed to draft suitable resolutions expressing the loss of the society and its sympathy with Dr. Stevens' relatives, that these resolutions be sent to the widow and to Colorado Medicine and that they be spread on the minutes of the county society.

The committee as appointed was composed of Drs. Black, Jackson and Jayne.

Dr. Lazell suggested that a cup be sent the child. There was some discussion, after which the motion was amended to leave the selection of the gift to the committee appointed. The motion was carried. Adjourned.

The Medical Society of the City and County of Denver held a regular meeting on the 1st of November, 1910, in the Academy of Medicine at 8 p. m., Dr. C. B. Van Zant presiding.

The minutes of the preceding meeting were read and approved. Dr. Tennant corrected the minutes by explaining that the Committee on Public Health and Legislation referred to was the committee of the State Society.

The Committee on Public Health and Legislation brought in a report as instructed favoring the election of a physician as Coroner. Dr. Grant spoke on the advisability of electing a physician, assuring the society that should Dr. Wallace be elected the physicians of the society would have an opportunity of doing medical work with the Coroner. Motion to adopt the resolution was carried.

Dr. Kinney, speaking for the Board of Trustees with reference to a report on the matter of appropriating \$50 to the Committee on Pub-

lic Health and Legislation, asked for further time.

Amendment to the By-Laws, Page 15, Article IX., Section 2, to amend by adding the following after the last line of the section, "the society may at any time, by unanimous consent or a two-thirds majority affirmative vote of the members present and voting, revert to any order of business which has been passed, or make a special order of business for a future meeting," was carried.

Amendment 2, an amendment to the Constitution, Page 4, Article III., Section 2, was read. Dr. Tennant moved its adoption. Dr. Carmody spoke against the amendment on the grounds that two candidates must be nominated whether the society were satisfied with one or not. Dr. Beggs spoke for the amendment. Dr. Carmody further objected to the plan on the grounds that parts of three meetings which should be devoted to the scientific program would be taken up with election. Dr. Tennant stated that the purpose of the amendment was to do away with politics and that he thought that they would result in less politics. Dr. Ferris asked whether there would be any parliamentary reason against voting on the amendments, inasmuch as they had been corrected since printing. Dr. Blickensderfer moved that the word "shall" in the next to the last line be changed to "may." Motion was carried. At this juncture Dr. Grant read the second amendment. It was moved that the first amendment be adopted. Dr. Beggs spoke on the second amendment, stating that in his opinion it was particularly vicious. The amendment was voted on and lost. Dr. Tennant moved the adoption of the second amendment. The motion was lost.

The secretary then read the fourth amendment as follows: "To amend the By-Laws, Art. IX., Section 2, by making exhibition of patients the second number on the order of business."

The society then proceeded with the regular program.

Dr. L. Levy read a memorial address on Dr. C. K. Fleming.

Dr. C. B. Ingraham read a paper entitled, "An Analysis of the Course of Labor in 100 Occiput Posterior Presentations."

Dr. Jayne moved that a committee of three be appointed to draft resolutions on the death of Dr. L. Auerbach. Carried. Drs. Hillkowitz, Shere and Parsons were appointed.

Dr. Black spoke on the appropriateness of the president appointing an orator for the memorial for Dr. Stevens. The motion to this effect was put and carried.

The society then adjourned. Present, sixty.

On November 8, 1910, the Medical Society of the City and County of Denver held its fourteenth alternate meeting. The address of the evening was given by Dr. E. C. Hill. The title of the address was, "My Experience in Pure Food and Drug Work," a practical talk with exhibition of specimens. The discussion was opened by Dr. J. N. Hall and Mr. R. S. Hill-

der, Chief of Denver U. S. Food and Drug Inspection Laboratory.

**The Medical Society of the City and County of Denver** held its regular meeting on the evening of November 22.

The application for membership of Dr. L. H. Schultz was read and ordered to take the usual course.

The Committee on Resolutions for Dr. L. Auerbach reported, presenting resolutions on his death. The resolutions in full are found elsewhere.

The amendment to the By-Laws, Art. IX., Sec. 2, by making exhibition of patients the second number on the order of business, was moved, seconded and carried.

The society then had the pleasure of listening to an address by Dr. R. V. Corwin of Pueblo entitled "Evolution of the Hospital." The address was thoroughly enjoyed.

The society then adjourned. Present, thirty-five.

**The Medical Society of the City and County of Denver** held an alternate meeting on the evening of November 22, 1910, at the Academy of Medicine, Dr. C. B. Van Zant presiding. The address of the evening was given by Dr. C. E. Cooper. It was entitled "Practical Points in Disease of the Upper Air Tract." The subject was well handled, thoroughly enjoyed and well discussed.

#### LARAMIE COUNTY.

Oct. 20.

The regular work for the year was opened at a meeting of the society held in the Y. M. C. A. building at which the following members were present, viz.: Drs. Winslow, Dale, Kickland, Taylor, Morgan, Schofield and Stuver. Dr. Taylor was unanimously elected president of the society.

The program for the evening was then taken up: SYPHILIS.

Dr. Dale gave a very thorough discussion of the etiology, contagion and immunity of the disease. Dr. Kickland then read a paper on "Acquired Syphilis." He discussed the primary, secondary, tertiary and quaternary stages, giving a very full and complete presentation of the whole subject. The whole subject of the evening was then discussed by Drs. Stuver, Morgan, Schofield, Dale and Kickland.

The meeting was a very interesting and profitable one and gives promise of a successful season's work. Adjourned.

Oct. 27.

Met in Y. M. C. A. building. There were present Drs. Taylor, Morgan, Atkinson, Winslow, Quick, Dale, Kickland, Stuver, Norton and Kaupp. The minutes of the last meeting were read and approved, after which the regular program of the day was taken up.

Dr. Morgan read an exhaustive paper in which he very thoroughly treated syphilis of the nervous and respiratory systems.

Dr. Stuver then read a paper on "Congenital Syphilis." He first discussed the general her-

editary factors and influences of the disease and then called attention to the profound effects that it exerts on the growth, development and welfare of the child, youth and young man, and woman. He then considered the dystrophies of syphilitic origin.

Dr. Atkinson presented a specimen of what was probably a degenerated chorion. Dr. Kickland presented a radiograph of a vesical calculus. Adjourned.

Nov. 2.

Met in Y. M. C. A. building. There were present Drs. Winslow, Upson, Replogle, Morgan, Kickland, Stuver, McHugh and Taylor.

The minutes of the last meeting were read and approved.

Dr. Kickland gave a report on the recent Colorado State Medical Society meeting.

Dr. Stuver gave a talk on Medical Progress and suggested that the members select the most important things that they meet in medical literature and report them at the next monthly meeting.

The application for membership of Dr. Sadler was then taken up and on motion he was unanimously elected a member of the society. Adjourned.

E. STUVER,  
Secretary.

#### EL PASO COUNTY MEDICAL SOCIETY.

The Colorado State Medical Society being in session in Colorado Springs at the time of our regular October meeting, it was deemed best to devote the evening to a social session at which the members of the State Society would be the guests of the El Paso County Medical Society at a Jungle Party. This party was held in Cheyenne Canon on the evening of October 12th. All members were invited to go to this party on the street cars as guests of the Colorado Springs & Interurban Railway Company. At 6 o'clock there were two cars of frivolous medics started for the feast. A barbecued dinner consisting of broiled venison, beef and lamb, with sandwiches, salad, pickles, olives, et cetera, was ready when the guests arrived at the picnic grounds. In a very few minutes after arrival we beheld the edifying scene of Dr. Freeman doing an Indian war-dance around the camp-fire with a leg of mutton in one hand and a plate of edibles in the other, requesting some kind gentlemen to furnish him with an extra hand so that he could convey portions of the food to his mouth. Dr. Hall was trying to find some one to whom to tell a story, but no one would listen. Drs. Jayne and Kahn were observed standing to one side inspecting the orchestra. Dr. Call and Dr. Gilbert were just eating. There were many others present but it might be embarrassing to their families if we told everything that occurred at this party.

During the evening various thrills were experienced by all members present when they beheld the beautiful young lady fall from the wire upon which she was endeavoring to cross the canon while suspended by her teeth. The real excitement of the evening was centered around the bulldog-badger fight and especially



when the Humane officers endeavored to prevent the fight in the name of the law. They were very unceremoniously escorted from the scene and the fight proceeded, which resulted in a very easy victory for the bulldog. Other features of the evening were dancing and music, pillow fights, winding up with a four-round boxing match between two local light-weights.

The November meeting of the El Paso County Medical Society was held at the Antlers hotel on the evening of November 9th. There were thirty-three in attendance, and the meeting was of unusual interest. There was considerable amount of business transacted, after which we proceeded to the program.

Among the clinical cases the first shown was blastomycetic dermatitis involving the face and hands, shown by Dr. McKinnie. This case is one of unusual interest because of the rarity of the disease. Many members of the State Society will remember having seen the case while at the state meeting which was demonstrated by Dr. Markley for the benefit of the state members. This case will be reported in full at the subsequent meeting of the society.

Dr. F. L. Dennis showed a pathological specimen of extreme stenosis of the larynx. This case had been shown to the society at the May meeting, demonstrating the stenosis resulting from extensive tuberculosis destruction.

Dr. Magruder then reported a case of middle-ear infection due to streptococcus mucosus capsulatus, this being entirely cured by the use of homologous vaccine. This ended the clinical cases.

The society then proceeded to the didactic portion of the program, which was a symposium of diseases occurring in the right abdominal quadrant. The diagnosis of diseases occurring in this region was taken up in a comprehensive manner by Dr. McClanahan.

The bacteriological infection in gall-bladder and kidney, and the formation of calculi, pancreatic diseases and ferments, and also demonstrating the use of the freezing microtome in diagnosing malignancy at the time of operation, was given by Dr. Trossbach.

Dr. Hanford's division was duodenum and stomach, during which he demonstrated the development of the anatomy of this region. He dwelt principally upon ulcers and related some of his observations noted in a recent trip to the clinics at Rochester and Chicago.

Dr. Perkins then reported two cases of subphrenic abscess and went rather extensively into the diseases of the kidney.

The general discussion of these subjects was opened by Drs. W. H. Swan and L. H. McKinnie.

General discussion was entered into by Drs. Webb, Martin, Boyd and Hanford.

L. H. McKINNIE,  
Secretary.

Dr. A. L. Stubbs, County Chairman of the Republican Committee of Otero County, has been appointed to the position on the Otero County Board of Pension Examiners left vacant by the death of Dr. B. F. Haskins.

## Book Reviews

**The Principles of Pathology: Vol. II, Systemic Pathology.** J. George Adami, M. A., M. D., LL.D., F. R. S., Professor of Pathology in McGill University, etc., and Albert G. Nicholls, M. A., M. D., D.Sc., F. R. S. (Can.), Assistant Professor of Pathology and Lecturer in Clinical Medicine in McGill University, etc. New York and Philadelphia: Lea & Febiger, 1909.

The second volume of Adami's Pathology presents, as did the first volume, many of his well known peculiarities of style, though modified to a considerable extent, as compared with the first volume, presumably under Dr. Nicholls' influence. The volume is concerned with the subject matter ordinarily included under the title of Special Pathology, though Adami, for reasons of his own, prefers the new terminology. There is a number of new departures in method of treating the subject, chief of which is the inclusion in the second volume of the disturbances of circulation, where they perhaps on strict grounds belong, instead of in the first volume, dealing with "General Pathology," where they are ordinarily treated. The change is thoroughly objectionable from the standpoint of the teacher. The discussion of certain of the tumors of the kidney and related organs presents a very striking change of front as compared with the advanced ground taken in regard to these tumors, the "Mesotheliomata" in the first volume.

Adami's extensive acquaintance with biology, and his marked tendency to employ sweeping generalizations, make the volume highly interesting and suggestive, to the reader possessed of some preparatory knowledge of the subject, without, however, carrying conviction in every case. It is doubtful if the two volumes will ever gain much foothold as college text-books. The second volume, like the first, shows fairly abundant typographical errors, chiefly of punctuation, which Adami's rather involved style renders peculiarly annoying, as they must in many cases be corrected before the sentence can be read with comprehension. It is to be hoped that these will be weeded out in later editions.

R. C. W.

**The Prevention of Sexual Diseases.** By Viktor C. Veckl, M. D., Ex-President San Francisco German Medical Society, Member American Urological Association, American Medical Association, California State Medical Society, etc., with Introduction by Wm. J. Robinson, M. D. The Critic and Guide Co., 12 Mount Morris Park, West, New York, 1910.

Written by one of those pleasing souls who, because sewers are necessary conveniences, advocate their discharge into our living apartments, this small book aims to purvey filth to the masses or such a fraction of them as are possessed of one dollar and fifty cents and strong olfactory organs. Possibly it will bring to those responsible for it some of the notoriety they evidently crave.

L. W. E.









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